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The Class of 90

(A Compendium of Findings)

Canada

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The Class Of 90

A compendium of findings from the 1992 National Graduates Survey of 1990 Graduates

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Prepared By:
Don Little
Louise Lapierre

Prepared under contract to Human Resources Development Canada
December 1996

SYMBOLS

The following are symbols used throughout this publication:

- Figures not available.
- * numbers marked with this symbol have a coefficient of variation between 16.6% to 25% and are therefore less reliable than unmarked numbers.
- data are not reliable enough to be released; the coefficient of variation is greater than 25%.



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METHODOLOGY

The National Survey of 1990 Graduates was conducted in June 1992. It focussed on individuals who had obtained a degree, diploma or certificate from a trade/vocational school, a career/technical college or a university in 1990, and who were still living in Canada at the time of the survey. More than 36,000 graduates, representing all provinces and territories of Canada, responded to this telephone survey designed to obtain information helpful for the development of policies related to education and labour markets. The response rate was 71%.

There is a longitudinal dimension to this survey in that the 1990 graduates were also interviewed again in 1995. The results of this 1995 follow-up, expected in 1997, will provide a longer term perspective of graduates' labour market experiences¹. Similar two and five year follow-up surveys were also conducted for the classes of 1982 and 1986.

For each province, the graduate population was stratified into five education levels. The levels were subsequently stratified into nine fields of study for those who had taken a college program, and ten fields for trade/vocational and university graduates. These field of study classifications were based on the 5-digit USIS (University Student Information System) and CCSIS (Community College Student Information System) codes used by Statistics Canada. Many of this report's tables and charts show data by field of study. A field of study's information will be omitted, however, if the field has too few observations to yield reliable data. For more detailed information on methodology, please see Appendix A.

¹ Statistics Canada, **Follow-up of 1986 Graduates**, Microdata user's guide, Special Surveys Group, Ottawa, March 1991.

INTRODUCTION

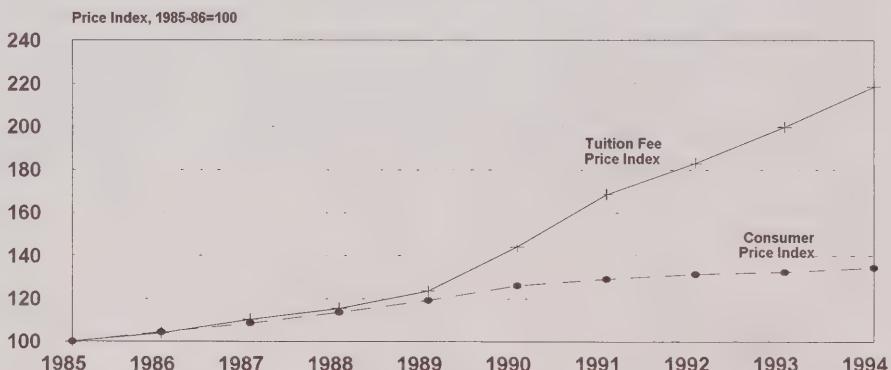
The prosperity of a country significantly depends on the education of its citizens. Indeed, education is critical to Canada's global competitiveness and standard of living.² Within this environment, an increasing number of Canadians are completing postsecondary education programs. To learn more about these graduates, Statistics Canada conducted the National Graduates Survey of 1990 graduates in 1992. Comparable surveys of 1982 and 1986 graduates were conducted in 1984 and 1988 respectively. The 1992 survey and this report were sponsored and financed by Human Resources Development Canada.

This report examines the characteristics and circumstances of 1990 graduates in 1992. Graduates were questioned about their education, labour force status, income, indebtedness, and job satisfaction. They were also asked about the relationship between their field of study and occupation, and how satisfied they were with their education program. The results are broken down by level of education, and some are presented by gender in order to gain a better understanding of how well women fared compared with men. As well, to put the results in an historical context, the figures for 1990 graduates are frequently compared with those for 1982 and 1986 graduates.

ECONOMIC CONTEXT

Fiscal pressures have prompted most postsecondary institutions to sharply increase their tuition fees in recent years. To illustrate, the university tuition fee price index has risen at a far faster rate than the consumer price index - particularly since 1989 (Chart A).

CHART A: TUITION FEE INCREASES HAVE OUTPACED INFLATION



*Both indices are calculated on an academic year (September-August) basis.

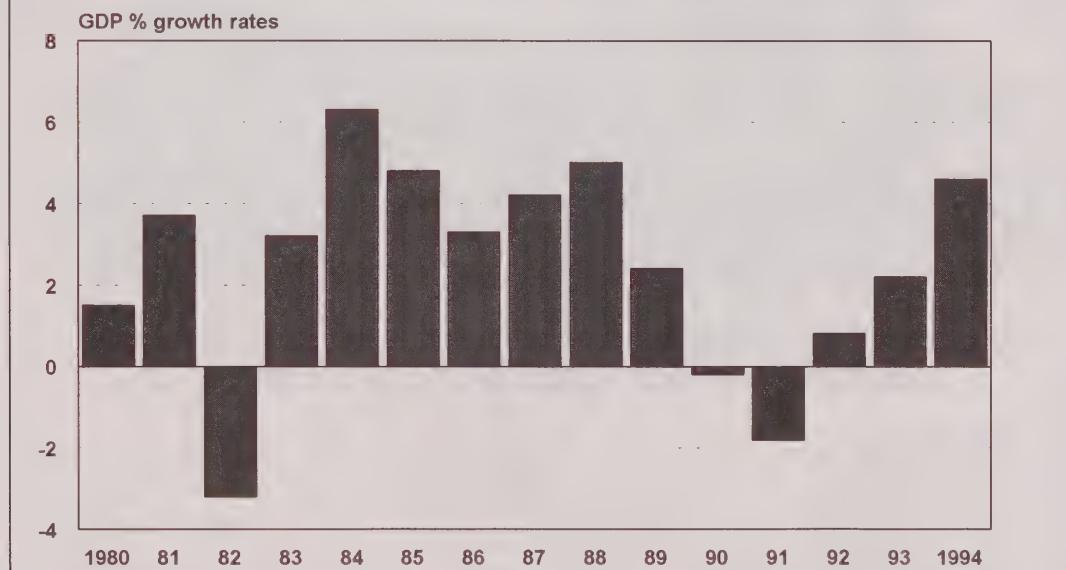
Source: Statistics Canada's Prices Division.

²Secretary of State, **Federal and Provincial Support to Post-Secondary Education in Canada**, A Report to Parliament, 1990-91, Minister of Supply and Services Canada, 1992.

Partly due to the rising cost of a postsecondary education, post-graduation labour market success, as will be described in this report, is becoming increasingly important to graduates.

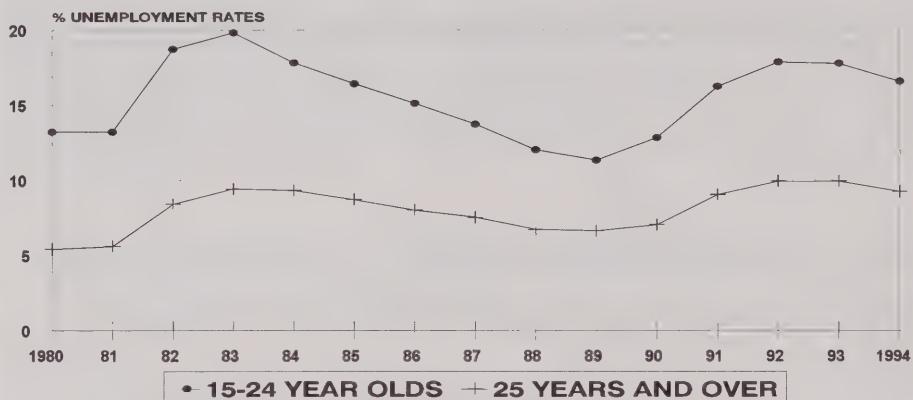
Labour market conditions, however, are contingent upon overall economic conditions. Thus, when comparing the experiences and transitions into the labour force of 1982, 1986 and 1990 graduates, overall economic conditions prevailing at the time of each class' graduation must be considered. The class of 1986 was fortunate to graduate during the mid-1980's when the economy was growing rapidly. In contrast, however, the classes of 1982 and 1990 graduated at a time when the economy was contracting (Chart B).

CHART B: THE ECONOMY GREW STRONGLY IN 1986, BUT CONTRACTED IN BOTH 1982 AND 1990-91



Since young people often lack seniority, job security, and previous work experience, their labour market prospects tend to be most affected by shifting economic conditions. Hence, during difficult economic periods (1982-83 and 1990-92, for example), the unemployment rate for 15-24 year olds rose more sharply than it did for those aged 25 and over (Chart C).

CHART C: YOUTH UNEMPLOYMENT RATES ARE MOST SENSITIVE TO ECONOMIC CONDITIONS

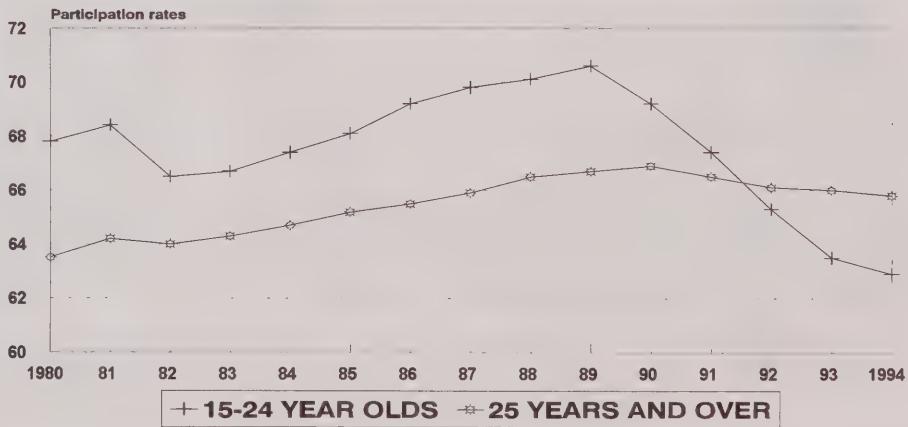


SOURCE: Canadian Economic Observer, Statistics Canada Cat. 11-210, table 8.

As well, the percentage of young people participating in the labour market fell significantly when the economy stalled in 1982, and again in 1990-92. Conversely, the participation rates of young people increased to about 70% during the economic boom of the mid-1980's (Chart D).

Those 1982 and 1990 graduates hoping to start their own businesses also faced more hurdles than

CHART D: ECONOMIC CONDITIONS SIGNIFICANTLY AFFECT YOUTH PARTICIPATION RATES

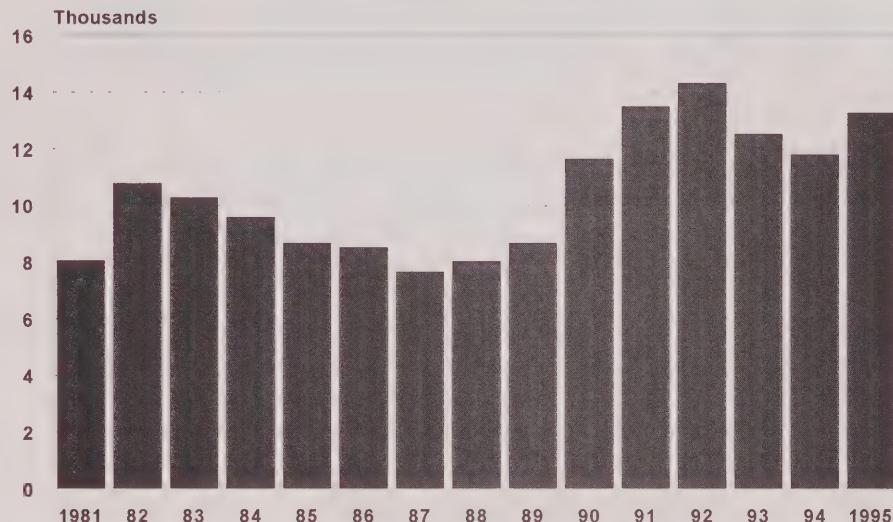


SOURCE: Statistics Canada CANSIM matrices D768033 and D767093.

the class of 1986. With the strong economy, business bankruptcies dipped in 1986-87, to levels well below those in the recession years of 1982 and 1990-92 (Chart E).

Overall, therefore, relatively weak economic conditions immediately following graduation made

CHART E: BUSINESS BANKRUPTCIES SOARED IN 1982 AND 1990-92



SOURCE: Annual Summary of the Office of the Superintendent of Bankruptcy, Industry Canada

labour market conditions less favourable for the 1982 and 1990 graduates than they were for the class of 1986. This must be borne in mind when comparing the results of 1990 graduates to those of their predecessors.

HIGHLIGHTS

- ◆ In 1990, more than 227,000 students graduated from Canadian postsecondary education institutions. Over half of these graduates were women. From trade/vocational, career/technical and university institutions, the percentages of 1990 graduates accounted for by women were 52%, 59% and 55% respectively.
- ◆ Nearly three of every four 1990 graduates were working full time in June 1992. Graduates from doctoral programs enjoyed the most success with 87% working full time. Trade/vocational graduates were the least successful - nevertheless, 64% had full-time employment in 1992.
- ◆ Among those 1990 graduates employed full time in June 1992, median earnings increased by education level, a clear signal that staying in school can pay off later. Doctoral graduates led the way earning \$46,000, followed by master's recipients (\$44,000) and bachelor's graduates (\$32,000). Graduates from career/technical programs earned \$26,000, followed by trade/vocational graduates who made \$23,000.
- ◆ Just over one in ten of the 1990 graduates were working part time two years after graduating. More than half of these part-time workers did so because they could not find a full-time job. At all education levels for the class of 1990, women were two to three times more likely than men to be working part time in 1992.
- ◆ The June 1992 unemployment rates among 1990 career/technical and university graduates closely resembled the 11% rate of Canada's overall labour force. In contrast, graduates from trade/vocational programs experienced an unemployment rate of 20%.
- ◆ Of the 1990 graduates employed full time in 1992, more than half had found jobs related to their field of study. The highest proportion was recorded for doctoral recipients, with 80% finding work corresponding to their field of study.
- ◆ From the class of 1990, the percentages of trade/vocational, career/technical and university graduates who, in the subsequent two years, pursued additional studies were 28%, 35%, and 47% respectively.

CHAPTER 1: WHO ARE THE 1990 GRADUATES?

by Louise Lapierre and Don Little

This chapter will show that the proportion of female graduates has steadily increased since 1982. As well, the majority of graduates were single, had no children and were more educated than their fathers. Moreover, the phenomenon of returning to school after obtaining labour market experience became increasingly common.

1.1) CHARACTERISTICS OF 1990 GRADUATES

In 1990, more than 227,000 students¹ graduated from Canadian trade/vocational schools, career/technical colleges and universities.² The number of trade/vocational and career/technical graduates has remained relatively stable since 1986, whereas the number of university graduates has increased by 9%.³ Female graduates outnumbered males at all levels of study except at the master's and doctoral levels (Table 1.1). Moreover, the number of female graduates has been steadily increasing since 1982.

Business and commerce were the preferred fields of study of women enrolled in trade/vocational and career/technical training. At the university level, their preferred fields of study were the humanities, health sciences and education. Men, on the other hand, were concentrated at all levels in the fields of engineering and other applied sciences, and in mathematics and physical sciences. However, the percentage of female graduates in these fields increased since 1982.

¹This figure includes only students who were still resident in Canada in June 1992.

²Students who obtained a general DEC from CEGEPs are not part of this study. See the Methodology section.

³According to unpublished administrative data produced by the Education Division, Statistics Canada.

Table 1.1 Distribution of 1990 graduates by gender, education level, and field of study

	% of graduates who were female			
	Trade/vocational programs		Career/technical programs	
	Total	52	59	
Business and commerce	77		67	
Arts	73		62	
Engineering and applied sciences	13		19	
Humanities and related	56		79	
Health sciences and related	90		83	
Natural sciences and primary industries	32		29	
Social sciences and services	84		72	
	Total - Universities	Bachelor's	Master's	Doctorate
Total	55	56	48	36
General Arts and sciences	56	57	48	37
Fine and applied arts	65	65	62	51
Agriculture and biological sciences	56	58	46	31
Commerce, management and administration	46	49	33	40
Education	69	70	64	54
Engineering and applied sciences	15	15	15	9
Humanities	63	64	60	46
Health professions	71	71	71	44
Mathematics and physical sciences	29	30	21	22
Social sciences	58	58	57	47

The median age of graduates varied according to their level of study. Graduates of trade/vocational schools were older (median age: 26) than career/technical graduates of colleges (median age: 22). A quarter of all trade/vocational graduates were between the ages of 30 and 39, whereas only 12% of career/technical graduates were in this age category. Just over half of graduates awarded a bachelor's degree in 1990 were between the ages of 22 and 24 (51%). The median age of graduates awarded a master's or doctoral degree was 30 and 33 respectively. The median ages of men and women were about the same at all levels of study except at the master's and doctoral levels, where women outnumbered men in the 40 and over age group.

Although the majority of graduates of career/technical and bachelor's programs were single, nearly 40% lived with a spouse in 1992. This percentage increased with the level of education to 60% of master's and 70% of doctoral graduates. At all levels, the percentage of female graduates who were widowed, separated or divorced was twice as high as that for males.

Most graduates had no dependent children at the time of the survey. This percentage ranged from 53% to 84%, depending on the education level. More female than male graduates of trade/vocational, career/technical and bachelor's programs reported having children, whereas the reverse was true of individuals awarded graduate degrees.

Table 1.2 Characteristics of 1990 graduates by level of education

LEVEL OF EDUCATION						
	Trade/Vocational	Career/Technical	Total-Universities	Bachelor's	Master's	Doctorate
MEDIAN AGE						
Men	25	22	25	24	29	32
Women	28	22	24	23	31	34
% SINGLE						
Men	53	69	61	66	36	23
Women	36	55	52	55	33	29
% LIVING WITH A SPOUSE (MARRIED OR COMMON-LAW)						
Men	41	29	37	32	60	72
Women	51	39	42	40	57	61
% WIDOWED, SEPARATED OR DIVORCED						
Men	5	2	2	2	4	5
Women	12	6	5	5	10	11
% WITH DEPENDENT CHILDREN						
Men	31	14	18	13	37	51
Women	44	22	20	18	36	40

Employment-Equity Groups (Definitions)

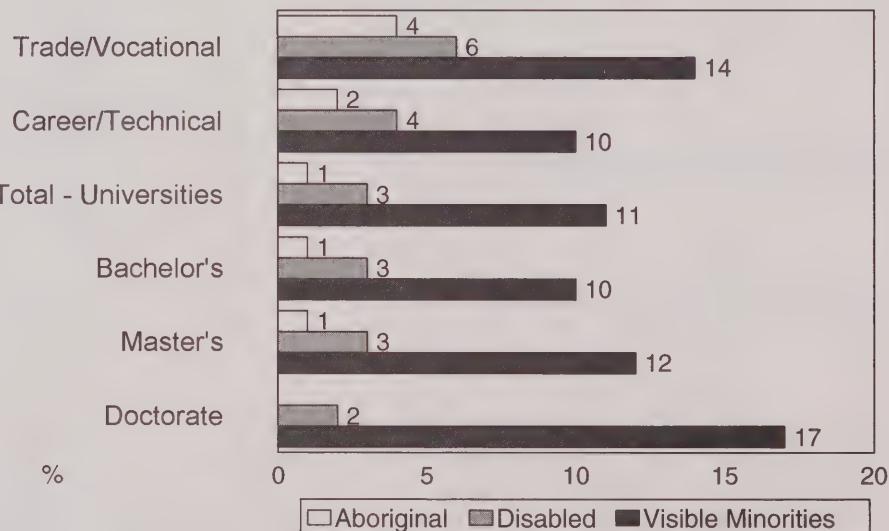
Aboriginal graduates: include those who responded that they consider themselves to be an Inuit, Metis or North American Indian.

Visible minority graduates: include those who said that their cultural background is Chinese, Japanese, Korean, Filipino, East Indian, Black, Arab, West Asian, South East Asian, North African, or Latin American.

Disabled graduates: include graduates who answered that they are limited in the kind or amount of activity they can do because of a long-term physical condition, mental condition or health problem.

Chart 1.1 gives the percentages of graduates in employment-equity groups in 1990. Their numbers increased steadily at all levels between 1982 and 1990, although they represented a small percentage of the total.

Chart 1.1: 1990 Graduates from Employment-Equity Groups, by level



Regarding linguistic minorities in Canada, approximately 5% of the 1990 graduates living outside Quebec in 1992 had French as their mother tongue (Table 1.3). In Quebec, the percentages of Anglophones and Allophones increased by level of education to reach some 33% of doctoral graduates.

Table 1.3 1990 graduates by mother tongue and level of education for: Canada excluding Quebec; and Quebec

	Mother tongue (%) of graduates outside Quebec			Mother tongue (%) of graduates living in Quebec		
	English	French	Other	English	French	Other
Trade/Vocational	82	6	12	6	88	6
Career/Technical	85	5	10	6	88	6
Total-Universities	83	5	12	15	78	7
Bachelor's	84	5	11	15	79	7
Master's	81	4	15	13	77	10
Doctorate	72	5	23	16	67	17

In general, 1990 graduates were better educated than their parents. In fact, for each education level, at least seven in ten graduated at a higher level than their fathers did (Table 1.4). This ratio was as high as nine in ten for the master's and doctoral categories. There was no major difference in this regard between men and women graduates.

Table 1.4 Comparison of the level of education of 1990 graduates with that of their fathers

LEVEL OF GRADUATION	HIGHER LEVEL THAN FATHER	SAME LEVEL AS FATHER	LOWER LEVEL THAN FATHER
	%		
Trade/Vocational	80	7	13
Career/Technical	80	7	13
Total - Universities	74	17	9
Bachelor's	71	19	10
Master's	89	6	5
Doctorate	93	7	--

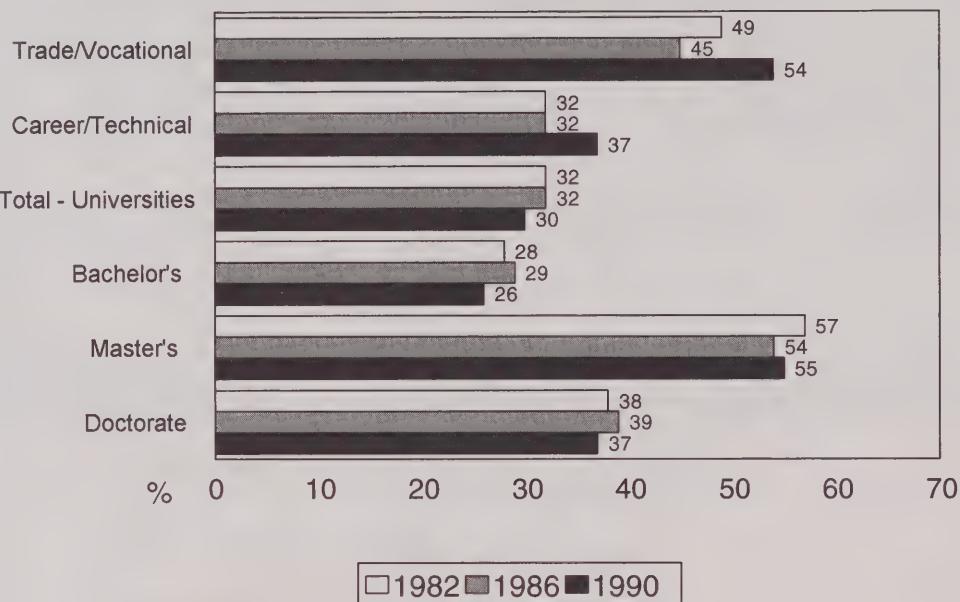
1.2) PATH FOLLOWED BY THE 1990 GRADUATES

A substantial number of graduates returned to school after having worked. For the twelve months prior to enrolling in the program from which they would later graduate, 36% of graduates stated that their principal activity was working. This percentage varied by level of education, with graduates of trade/vocational and master's programs reporting the largest percentages of 54% and 55% respectively (Chart 1.2).

After falling slightly from the classes of 1982 to 1986, the percentage of 1990 trade/vocational graduates whose principal activity was "working" in the year before enrolling rose to 54%. For

career/technical graduates this percentage, which remained stable at 32% in 1982 and 1986, rose to 37% in 1990. Among university graduates, the percentage working before enrolling fell slightly.

Chart 1.2: Percentage of graduates whose principal activity was "working" in the 12 months preceding enrolment into their program of study



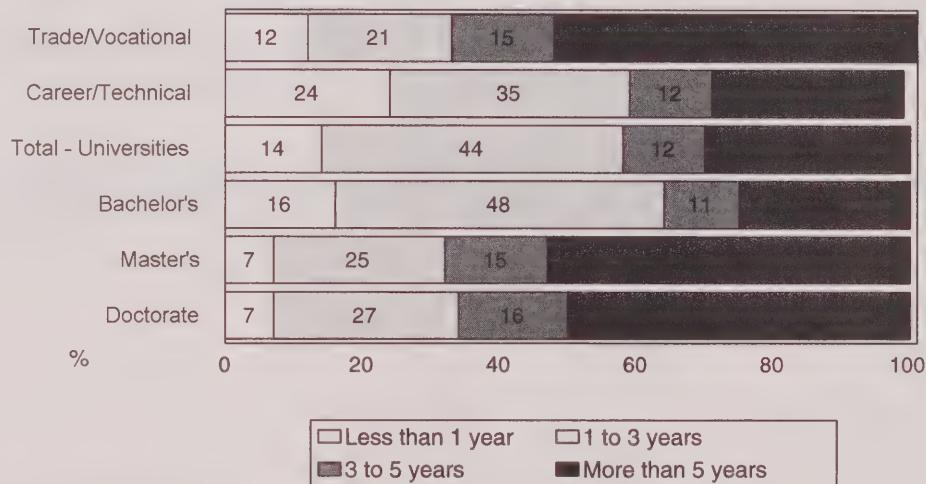
Moreover, 55% of graduates were already studying during those twelve months. Another 3% stated that their principal pre-enrolment activity was "looking for work", while 5% were engaged in other activities (Table 1.5). Bachelor's and doctoral graduates constituted the largest percentage of those studying during the year preceding admission to their program.

Of those in the labour market before beginning their program, 37% had work experience of one to three years, while 34% had at least five years of work experience. A majority of trade/vocational, master's and doctoral graduates, who had been in the labour market full time before beginning their program of studies, had been working for at least five years (Chart 1.3).

Table 1.5 Principal activity of 1990 graduates in the 12 months before enrolling

	Trade/Vocational	Career/Technical	Total - Universities	Bachelor's	Master's	Doctorate
%						
TOTAL	100	100	100	100	100	100
Working	54	37	30	26	55	37
Studying	25	56	66	70	40	60
Looking for work	11	2	1	1	1	--
Other activities	10	5	3	3	3	3*

**Chart 1.3: Years of previous full-time work experience*
(excluding summer jobs)**



* among graduates who had been in the labour force in the year preceding admission into the program from which they graduated

Most graduates pursued their studies in their home province. The percentage of students who emigrated to another province to pursue their program of studies and who subsequently returned to their province of origin increased with the level of study. While only 1% of trade/vocational and career/technical graduates did so, 3% of bachelor's graduates and 5% of master's and doctoral graduates opted for such a move.

As might be expected, the normal duration of a program depended on the level of education chosen. Over 80% of trade/vocational graduates stated that the normal duration of their program, if taken full time, was from three to twelve months. For 98% of career/technical graduates, the normal duration

did not exceed three years. The normal duration for 95% of bachelor's graduates was four years or less. For graduate studies, 80% of master's graduates pursued a program lasting two years or less, while 68% of doctoral graduates followed a program that required more than three years of full-time study (Table 1.6).

In general, graduates needed more time to complete their programs than they would have if they had all attended on a full-time basis. Trade/vocational graduates needed an average of 12 months to complete their programs, while career/technical graduates took 28 months to do so. At the university level: bachelor's, master's and doctoral graduates needed an average of 48, 34 and 63 months respectively to fulfill their program requirements. Programs frequently lasted longer because many graduates were enrolled part time at some point during their studies.

Part-time enrolment was not uncommon, particularly among university graduates. 24% of bachelor's graduates, 43% of master's graduates and 30% of doctoral graduates were enrolled part time at some point during their program. This practice gained in popularity among graduate students between 1986 and 1990, after declining between 1982 and 1986. The 1990 figures thus resemble those for 1982.

Co-op programs combine studies with the chance to gain work experience. Of career/technical graduates, 12% reported that they were enrolled in a co-op program, whereas the figure for university graduates was only 5%.

Table 1.6 Percentage of 1990 graduates by characteristics of the program of studies

	Trade/Vocational	Career/Technical	Total - Universities	Bachelor's	Master's	Doctorate
%						
<u>Normal duration of program of studies</u>						
3 to 5 months	14	--	--	--	--	--
6 to 12 months	67	--	--	--	--	--
More than 12 months	19	--	--	--	--	--

Less than 12 months	--	11	7	6	14	--
13 months to 2 years	--	47	12	4	66	2
3 years	--	39	35	39	13	15
4 years	--	2	40	46	3	30
More than 4 years	--	--	5	5	1	38
Program length "varies"	--	--	1	--	1	13

Ever registered as part-time student	9	10	27	24	43	30

Studied as a co-op student	--	12	5	6	4	2

1.3) SUMMARY

In 1990, more than 227,000 students graduated from Canadian postsecondary education institutions. Over half of these graduates were women. From trade/vocational, career/technical and university institutions, the percentages accounted for by women were 52%, 59% and 55% respectively.

Although female postsecondary graduates outnumbered their male counterparts, they remained under-represented at the master's and doctorate levels. Those females who did earn graduate degrees were older than their male counterparts and more likely to live alone, but fewer women than men in this category reported having dependent children.

Returning to school after gaining work experience was not uncommon among trade/vocational and master's graduates. This practice grew significantly since 1986 among trade/vocational and career/technical graduates.

CHAPTER 2: LABOUR FORCE STATUS OF 1990 GRADUATES

by Don Little

A primary reason for undertaking postsecondary studies is to enhance one's employment prospects. Several factors influence graduates' labour market outcomes. Labour market success may depend on a graduate's field and level of study, previous work experience, age, personal circumstances, and so on.

Each National Graduates Survey explores the labour market experiences of postsecondary graduates two years after graduation. The 1990 graduates described their June 1992 labour market activities. The class of 1986 was similarly asked about May 1988, and the class of 1982 about June 1984. Therefore, in addition to learning about how 1990 graduates fared in the labour market, we can also compare their experiences to those of 1986 and 1982 graduates.

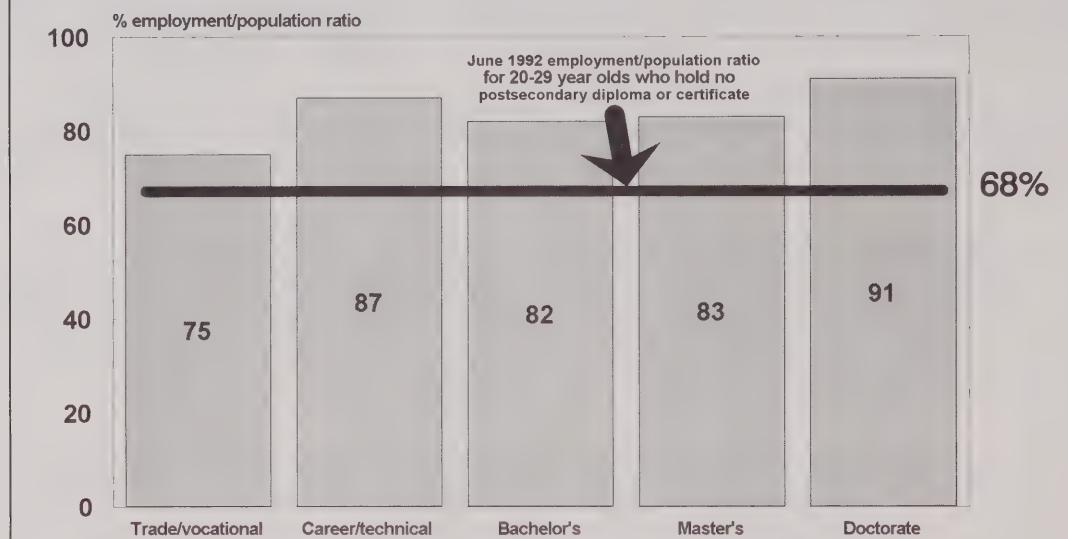
Section 2.1 shows how many graduates were working two years after graduation. Although higher education increased the likelihood of finding work, 1990 graduates were less likely than 1986 graduates to be working two years after graduation. Sections 2.2 and 2.3 respectively explore whether jobs found were full time or part time in nature. Relative to the class of 1986, 1990 graduates were less likely to be working full time, and more likely to be working part time. Section 2.4 looks at whether or not graduates perceived their positions to be permanent, while section 2.5 investigates how long it took graduates to find the jobs they held two years after graduation. Compared to the class of 1986, 1990 graduates took longer to find the jobs they occupied two years after graduation. Section 2.6 examines the incidence of unemployment after graduation. Although 1990 graduates bore higher unemployment rates than 1986 graduates, they continued to have lower rates than non-graduates, indicating that there is a payoff to those who pursue postsecondary studies. Finally, the effects on labour market outcomes of graduates' ages, previous work experience, and fields of study will be examined.

2.1) HAVE 1990 GRADUATES FOUND JOBS?

Employment/population ratios show the percentage of graduates working, regardless of whether they were employed full or part time. From the class of 1990, trade/vocational graduates recorded the lowest June 1992 employment/population ratio (75%), while doctoral recipients posted the highest ratio (91%) (Chart 2.1). As expected, 1990 graduates from all levels fared better than young people without postsecondary education accreditations; the June 1992 employment/population ratio was only 68% for 20-29 year olds holding no postsecondary diploma, certificate or degree¹.

¹Estimate for the non-graduates was produced by the Labour Force Survey Sub-division of Statistics Canada's Household Surveys Division.

Chart 2.1: June 1992 employment/population ratios for 1990 graduates



For each education level, the employment/population ratio two years following graduation was lower for 1990 graduates than it had been for 1986 graduates (Table 2.1). Whereas the recession of the early 1990's hampered graduates from all education levels, 1986 graduates were fortunate enough to enter a workforce buoyed by a strong economy .

Table 2.1 Percentage of graduates¹ working two years after graduation

	Class of 1982 in June 1984			Class of 1986 in May 1988			Class of 1990 in June 1992		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
		%		%		%		%	
Trade/vocational	73	65	70	79	79	79	74	76	75
Career/technical	87	86	87	89	90	89	87	87	87
Total-Universities	84	82	83	84	84	84	83	83	83
Bachelor's	-	-	-	84	84	84	83	82	82
Master's	-	-	-	84	84	84	83	84	83
Doctorate	-	-	-	95	90	93	92	89	91

¹ Includes graduates who are employed but whose part-time/full-time status is unknown.

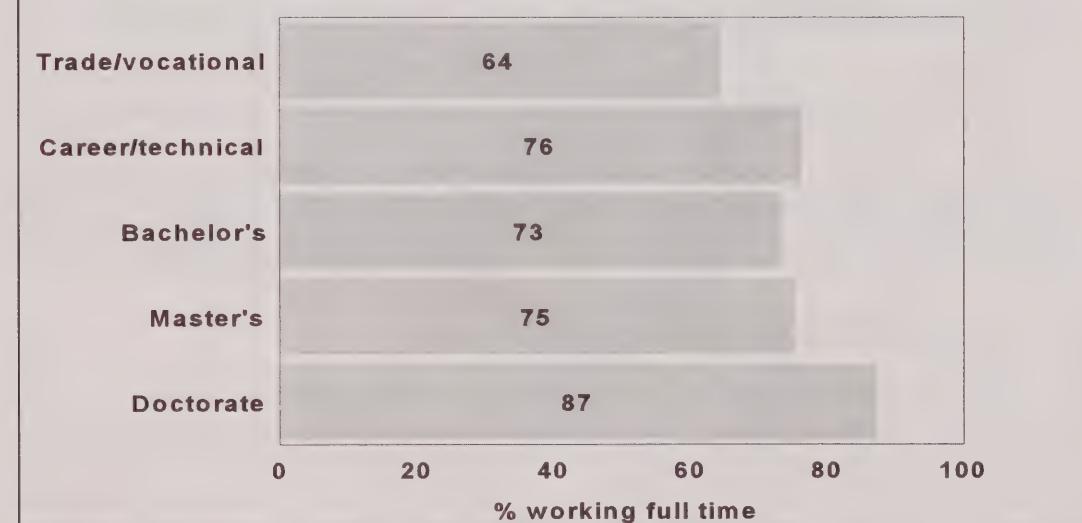
The class of 1982, like the class of 1990, graduated into a relatively weak economy. As a result, 1990 career/technical and university graduates had employment/population ratios that resembled those of 1982 graduates. However, at the trade/vocational level, 1990 female graduates were more likely to be working two years after graduation than female graduates from the class of 1982.

As with the class of 1986, the gender of 1990 graduates had no discernable impact on the chances of having a job two years after graduation. At all education levels, however, men were more likely to be working full time; conversely, women were more than twice as likely as men to be working part time.

2.2) **WERE GRADUATES ABLE TO FIND FULL-TIME WORK?**

Some 72% of 1990 postsecondary graduates were employed full time² in June 1992. Trade/vocational graduates had the least success two years after graduation with just 64% employed full time. Doctoral graduates had the most success, with 87% working full time (Chart 2.2).

Chart 2.2: Percentage of 1990 graduates working full time in June 1992



The 1990 graduates from all levels were less likely to be employed full time two years after graduation than graduates from the class of 1986, again likely due to the recession of the early 1990's.

²Respondents are deemed to be employed full time if they usually work thirty or more hours per week. Persons usually working fewer than thirty hours per week are categorized as part time. These definitions are consistent with those used in Statistics Canada's Labour Force Survey.

With the classes of both 1982 and 1990 graduating into relatively weak economies, the 1990 postsecondary graduates did not fare significantly worse than 1982 graduates (Table 2.2). Indeed, 1990 trade/vocational graduates were more likely to be working full time in June 1992 than 1982 graduates were in June 1984.

Table 2.2 Percentage of graduates working full time two years after graduation

	Class of 1982 in June 1984	Class of 1986 in May 1988	Class of 1990 in June 1992
%			
Trade/vocational	60	69	64
Career/technical	77	82	76
University level:			
Bachelor's	73	74	73
Master's	76	76	75
Doctorate	85	87	87

Some postsecondary graduates were enrolled in co-op programs which combined on-the-job work experience with formal academics. This enabled them to get relevant work experience before graduation, which better equipped them to find full-time employment afterwards. While some 82% of the 1990 career/technical graduates from co-op programs worked full time in June 1992, only 76% of the remaining career/technical graduates were doing so. For university graduates, the figures were 82% and 73%, respectively.

2.3) MORE GRADUATES WORKING PART TIME

1990 graduates from all postsecondary levels were more likely to be working part time after graduation than their predecessors from the class of 1986 (Table 2.3). Furthermore, graduates increasingly worked part time because they could not find full-time work. This was probably due to a recession-induced restructuring of Canada's labour market towards more part-time employment at the expense of full-time positions. Overall in Canada, from 1988 to 1992, the number of people working part time grew 9%, while full-time employment fell by 2%³.

³Source: The Labour Force (Catalogue no. 71-001), Statistics Canada.

Table 2.3 More graduates were involuntarily working part time two years after graduation

	percentage of graduates working part time		percentage of graduates working part time because they could not find a full-time job (only of those working part time)	
	<u>Class of 1986</u>		<u>Class of 1990</u>	
	%	%	%	%
Trade/vocational	9	12	53	61
Career/technical	8	11	46	58
University	9	10	37	48

Of the 1990 university graduates employed part time in June 1992, some cited other reasons for working part time. Twenty percent chose to work part time because they were still going to school. Twelve percent did not want full-time work, and another 6% could not work full time due to personal/family responsibilities.

At all education levels for the class of 1990, women were two to three times more likely than men to be working part time in June 1992⁴. This is partly because women assume more family responsibilities than men, which in turn, can preclude women's opportunities to work full time⁵. Whereas nearly one in five female postsecondary graduates with dependent children worked part time in June 1992, only one in twenty male graduates with dependent children did so (Table 2.4). Yet even among graduates with no dependent children, women were still more likely than men to be employed part time.

Table 2.4 Female graduates with children were more likely than other graduates to be working part time

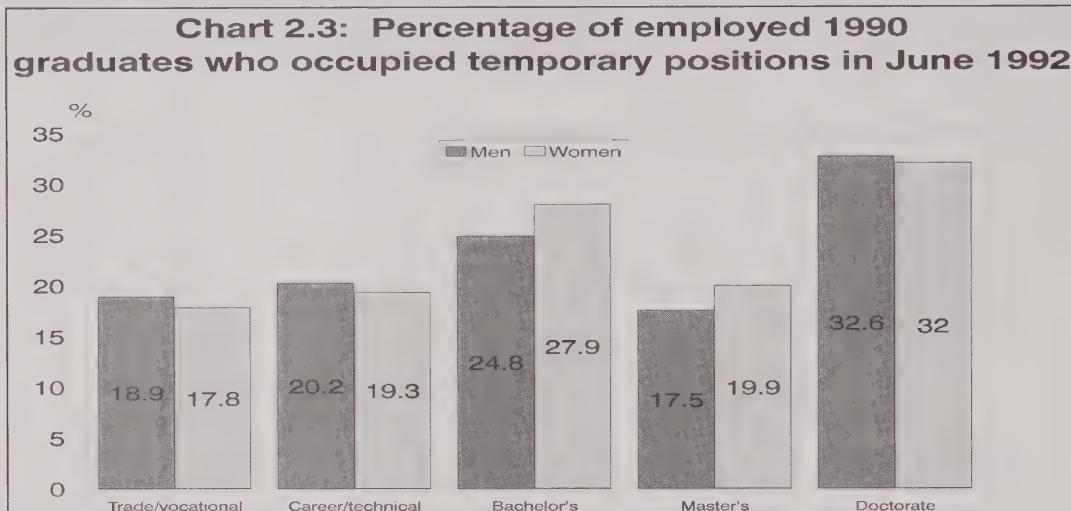
	% of 1990 graduates working part time in 1992			
	<u>men with no dependent children</u>	<u>women with no dependent children</u>	<u>men with dependent children</u>	<u>women with dependent children</u>
	%	%	%	%
Trade/vocational	6	15	5	19
Career/technical	6	12	6	20
University	7	11	5	18

⁴Generally this also applies to Canada's overall labour force. Labour Force Survey data show that, of the 2.1 million Canadians employed part time in 1993, 69% were women.

⁵Labour Force Survey figures indicate that 96% of the Canadians who voluntarily work part time due to personal or family responsibilities are women.

2.4) WERE GRADUATES' JOBS PERCEIVED TO BE PERMANENT OR TEMPORARY?

Among the 1990 postsecondary graduates who were paid employees⁶ in June 1992, few occupied temporary positions. As well, gender had little effect on the likelihood of 1990 graduates securing only a temporary job (Chart 2.3).



However, the likelihood of having a temporary position appeared to increase with education levels. Although trade/vocational graduates were less likely to find work, just 18% of those who did get jobs occupied temporary positions. Of those career/technical and university graduates working in June 1992, 20% and 26% respectively had temporary positions. Although 90% of doctoral recipients were working two years after graduation, almost one third of those who were paid employees stated they were employed in temporary positions. An inverse relationship therefore appears to exist between the ease of finding work and the perceived permanency of work found. This may arise because better-educated graduates have more elaborate career plans, and therefore view their current jobs as "temporary" because they intend to find better positions in the near future. On the other hand, the positions available to better-educated graduates may indeed be increasingly temporary and short-term in nature. The inverse relationship between the ease of finding work and the perceived permanency of work found may also be due to graduates' relative needs for job security. The better-educated graduates may be less wary of temporary positions, because they expect labour market demand for their services will be high upon the job's completion.

⁶Paid employees work for someone else in return for wages or a salary.

2.5) HOW RAPIDLY DID GRADUATES FIND WORK?

The 1990 graduates were asked to describe their labour market activities in January 1991, October 1991 and June 1992. The class of 1986 was similarly questioned about January 1987, October 1987 and May 1988. Their responses allow us to compare the transitions of 1986 and 1990 graduates into the workforce.

Generally, neither gender nor education level influenced how quickly the 1990 graduates found their June 1992 jobs. One would, however, expect graduates' employment/population ratios to increase over the two years following graduation, largely because some graduates, who were neither able nor prepared to find work immediately after graduating, would land employment as time passed. This occurred with the class of 1986 (Table 2.5)⁷. For the class of 1990, however, although the employment/population ratio rose from January 1991 to October 1991, it afterwards declined by June 1992. The 1990 graduates' dampening prospects from October 1991 to June 1992 probably stemmed from a weakening of Canada's labour markets in this period as the economy slipped deeper into recession⁸.

Table 2.5 Transition of graduates into the workforce during the two years following graduation

	Class of 1986 in Jan. '87	Class of 1986 in Oct. '87	Class of 1986 in May '88	Class of 1990 in Jan. '91	Class of 1990 in Oct. '91	Class of 1990 in June '92
% employment /population ratio¹				% employment /population ratio¹		
Trade/vocational	71	80	79	74	79	75
Career/technical	83	88	89	84	88	87
University	79	82	84	81	85	83

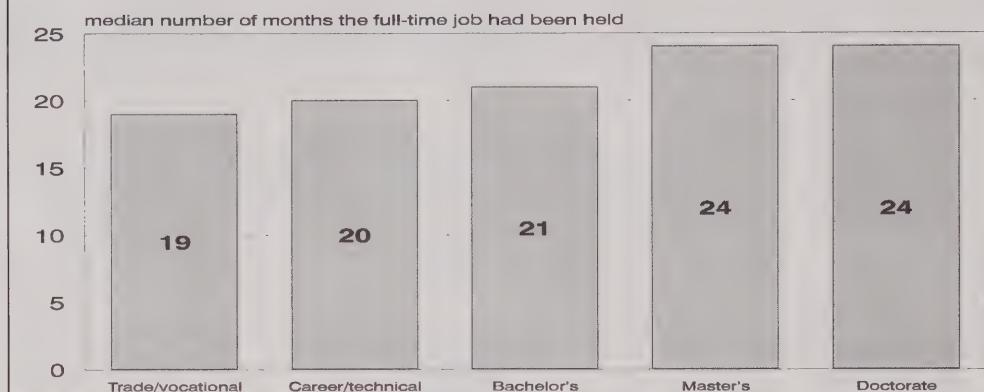
¹ Includes graduates who are employed but whose part-time/full-time status is unknown.

For 1990 graduates with full-time jobs in 1992, the median length of time these jobs were held increased by level of education (Chart 2.4). The duration of these jobs ranged from a low of 19 months for trade/vocational graduates to 24 months for master's and doctoral graduates. This suggested less turnover and perhaps more job security for graduates who had attained the highest education levels.

⁷The only exception arose for the trade/vocational category where the percentage of graduates who were working declined very slightly from October 1987 to May 1988.

⁸From October 1991 to June 1992 the employment/population ratio for Canada declined from 60.9% to 60.0%. The unemployment rate for persons aged 20-24 jumped from 14.7% to 16.4%, while growing from 8.3% to 9.2% for those over 24 years old (Source: Labour Force Survey).

Chart 2.4: Duration of the June 1992 full-time jobs of 1990 graduates



2.6) RISING UNEMPLOYMENT FOR GRADUATES

With the recession, Canada's overall unemployment rate stood at 11.0% in June 1992, up from 7.6% in May 1988. Dismal labour market conditions prompted unemployment rates for graduates of all education levels to be higher for the class of 1990 than they were for the class of 1986 (Table 2.6).

Table 2.6 Unemployment rates two years after graduation

	TRADE/VOCATIONAL GRADUATES OF:			CAREER/TECHNICAL GRADUATES OF:			UNIVERSITY GRADUATES OF:		
	1982 in June 1984	1986 in May 1988	1990 in June 1992	1982 in June 1984	1986 in May 1988	1990 in June 1992	1982 in June 1984	1986 in May 1988	1990 in June 1992
	%	%	%	%	%	%	%	%	%
Canada	26	17	20	10	8	10	10	9	11
Newfoundland	37	35	36	14	14	15	8	13	13
Prince Edward	21	20	18	16	19	14	12	11	17
Nova Scotia	25	19	24	11	10	17	16	13	12
New Brunswick	26	24	25	13	12	8	10	12	14
Quebec	35	24	29	14	10	10	14	10	13
Ontario	20	10	18	8	5	10	8	7	10
Manitoba	10	11	14	7	9	10	7	11	8
Saskatchewan	12	12	13	5	9	11	7	10	7
Alberta	17	18	15	7	9	9	7	12	9
British Columbia	23	15	17	14	8	9	11	12	9

Higher education did, however, markedly reduce the chances an individual would be unemployed. The June 1992 unemployment rate for less educated⁹ 20-29 year olds was 16.6%. Among postsecondary graduates, only trade/vocational graduates (20%) suffered a higher unemployment rate. All other 1990 graduate categories had lower unemployment rates in June 1992: career/technical (10%), bachelor's (11%), master's (8%) and doctorate (6%) recipients all fared better than less educated young people.

Just as they have in Canada's overall labour force, graduates' unemployment rates have persisted in rising as one looks eastwards. Regardless of education level attained, the unemployment rates of graduates from Quebec and the Atlantic provinces tended to exceed the Canadian average for graduates.

In most provinces, unemployment rates two years after graduation were higher for 1990 graduates than they had been for 1986 graduates. Over this period, Ontario graduates' unemployment rates rose the most, perhaps reflecting the recession's negative impacts on Ontario's manufacturing and related industries. The largest unemployment rate drops were seen in Alberta. Compared to the unemployment rates experienced by the class of 1982 in 1984, prospects for 1990 graduates were most improved in British Columbia and Quebec.

Male graduates from the class of 1990 experienced a higher unemployment rate (13.1%) than their female counterparts (11.4%). Only in the sparsely populated master's and doctorate categories did women have higher unemployment rates than men (Table 2.7). The largest spread was in the trade/vocational category where the male unemployment rate of 22% exceeded the female rate of 17%.

⁹The "less educated" include persons with no postsecondary diploma, certificate or degree. The 16.6% rate was estimated by Statistics Canada's Labour Force Survey Sub-division.

Table 2.7 Labour force status of 1990 graduates in June 1992, by gender

	% unemployed ¹		% not in labour force ²		Unemployment rate ³	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
	%		%		%	
Trade/vocational	21.3	15.5	4.4	8.6	22.3	17.0
Career/technical	10.5	8.6	2.7	4.8	10.8	9.0
Total Universities	9.9	9.9	7.2	7.6	10.7	10.7
Bachelor's	10.5	10.3	6.8	7.5	11.3	11.1
Master's	6.6	7.3	10.6	8.9	7.4	8.0
Doctorate	5.0	7.2	2.6	3.4	5.2	7.4

¹ These figures are not unemployment rates, but rather the percentage of all graduates who were unemployed.

² Persons not in the labour force were neither working nor looking for a job, thus they were deemed to be neither employed nor unemployed.

³ The number of unemployed divided by the number of graduates in the labour force.

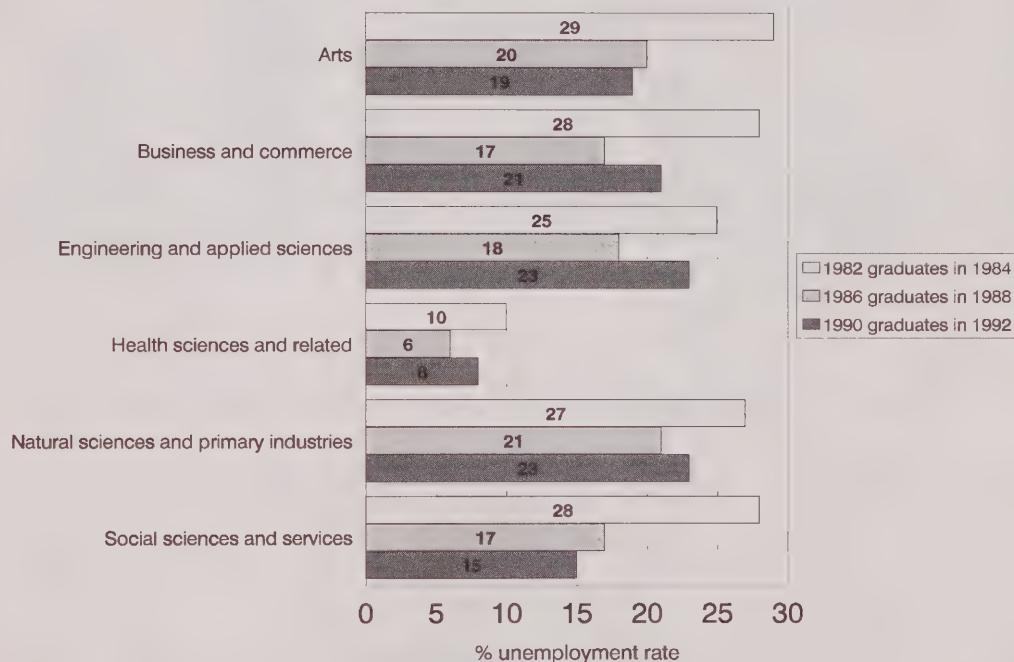
Whereas 5.6% of 1990 male graduates were outside the labour force (that is, neither working nor looking for work) two years after graduation, 7% of female graduates were in this situation. More women than men were outside the labour force because women tend to assume more family duties. Conversely, when children were not present, women were more likely to be working or seeking work; indeed among graduates with no dependent children, women (5.6%) appeared slightly less likely than men (6.1%) to be outside the labour force.

Regardless of gender, 1990 university graduates were more likely than graduates from other education levels to be outside the labour force in June 1992. Almost two-thirds of university graduates outside the labour force did not seek work because they had continued going to school. This may have been due to the recession and increasing workplace pressure for more education and training.

The graduates from employment-equity groups suffered significantly higher unemployment rates two years after graduation than their classmates. Non-target group graduates from trade/vocational programs had an unemployment rate of 19%, far below the rates for natives (26%), visible minorities (23%) and the disabled (26%). Among career/technical graduates, the non-target group unemployment rate of 10% was less than those for natives (18%), visible minorities (15%) and the disabled (14%). The spread was narrower among university graduates, where the non-target group unemployment rate of 10% was exceeded by the rates for natives (11%), visible minorities (14%) and the disabled (14%).

Some fields of study better prepared graduates to find jobs. At the trade/vocational level, graduates from health-related fields of study had the lowest unemployment rate (8%) (Chart 2.5). The highest rates (23%) at the trade/vocational level were recorded for natural sciences graduates and engineering and applied sciences graduates. For all fields of study, two years after graduation, unemployment rates for 1990 graduates were lower than for 1982 graduates. For most fields, however, unemployment was higher for the class of 1990 than it had been for the class of 1986.

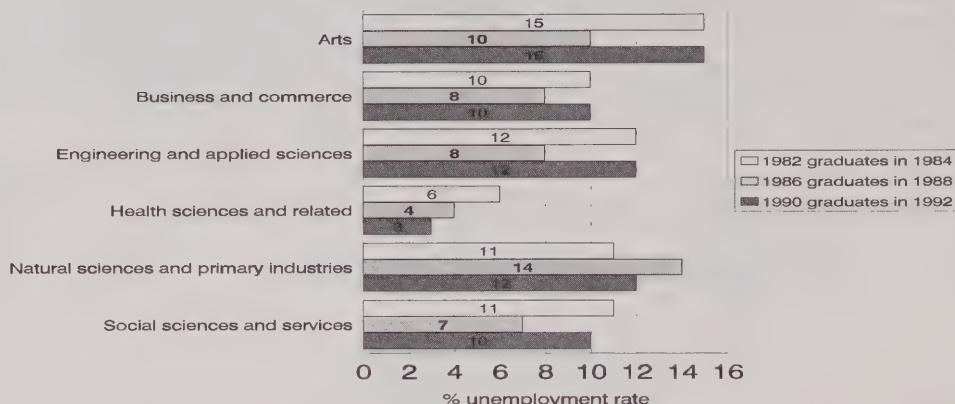
Chart 2.5: Unemployment rates for trade/vocational graduates



As with trade/vocational graduates, at the career/technical level the lowest 1990 unemployment rate (3%) was posted by graduates from health-related fields (Chart 2.6). Arts graduates had the highest unemployment rate (15%). Unemployment rates rose from the class of 1986 to 1990 for all graduates except those from the natural sciences and health-related fields.

At the university level, graduates from health-related fields again posted the lowest unemployment rate (5%) (Chart 2.7). The highest rate (15%) went to fine and applied arts graduates, followed by humanities graduates (14%). While unemployment rates rose in most fields from the classes of 1986 to 1990, they did decline for social sciences and agriculture and biological sciences graduates.

Chart 2.6: Unemployment rates for career/technical graduates



Thus, the 1992 unemployment rates of 1990 graduates from all education levels were lowest amongst those who graduated from health-related programs. The arts-related fields of study tended to leave students most vulnerable to unemployment after graduation. Because of the recession, for most fields of study, unemployment levels amongst 1990 graduates in 1992 surpassed the levels recorded for 1986 graduates in 1988.

Chart 2.7: Unemployment rates for university graduates

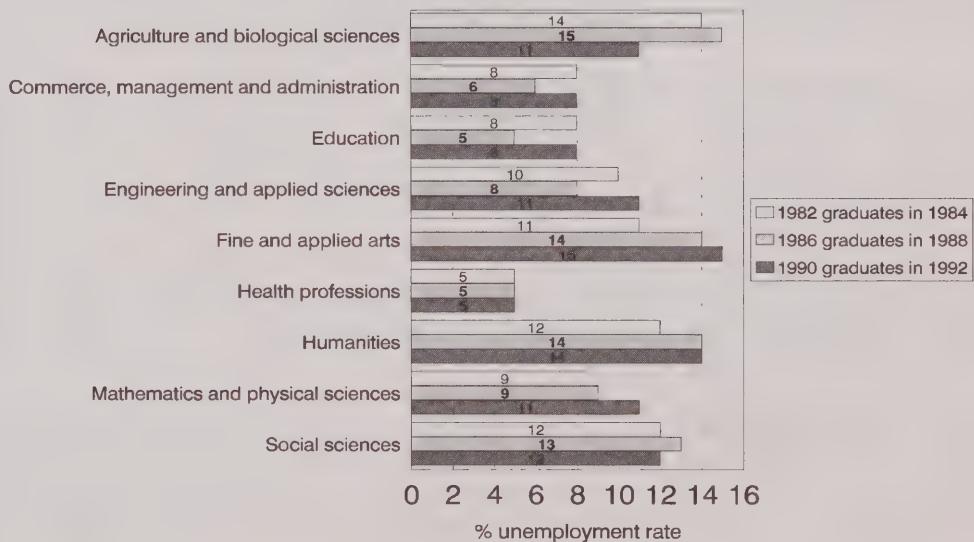
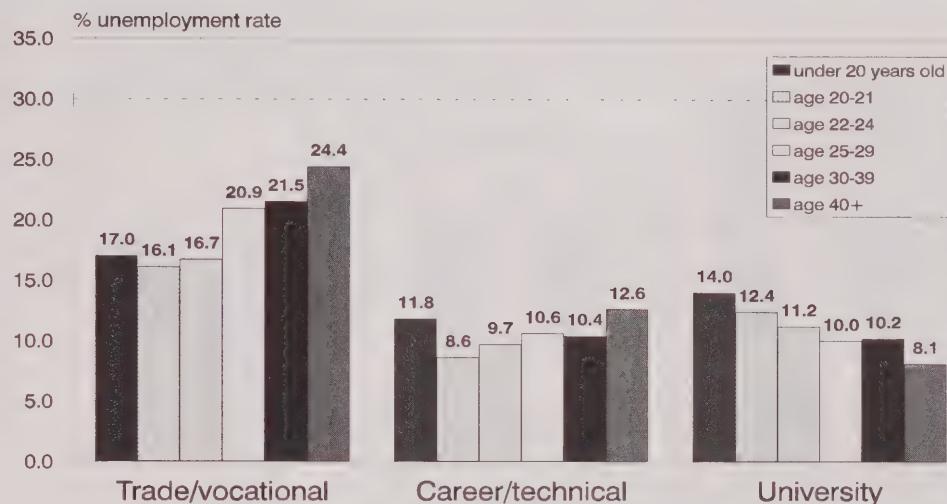


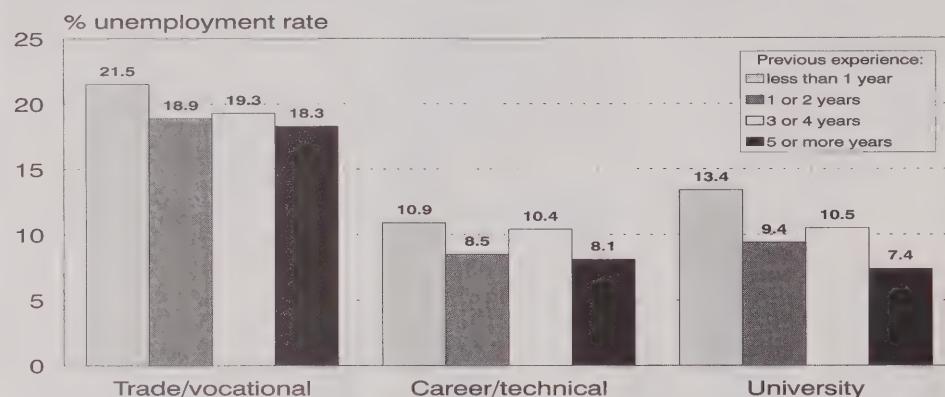
Chart 2.8: The effect of age* on the June 1992 unemployment rates of 1990 graduates



*refers to the graduate's age at the time of graduation

The ages of 1990 graduates had differing impacts, by level of education, on the likelihood of being unemployed two years after graduation (Chart 2.8). The 1990 trade/vocational graduates aged 25 years and over experienced higher unemployment rates than their younger classmates. In the career/technical category, age was a significant disadvantage only for those in the 40+ category. In contrast, among 1990 university graduates, unemployment rates were lower for older graduates, probably because they had more previous work experience to complement their academic qualifications. At all education levels, particularly university (especially among master's and doctorate graduates), previous work experience reduced the probability of being unemployed (Chart 2.9).

Chart 2.9: The effect of previous work experience* on the June 1992 unemployment rates of 1990 graduates



*refers to previous full-time work experience, excluding summer jobs

The status of 1990 graduates in the twelve months *before* enrolling in their programs also influenced their likelihood of being unemployed two years after graduation. Those who stated their main pre-enrolment activity was "looking for work" had significantly higher 1992 unemployment rates than those who had been working or going to school (Table 2.8). Nevertheless, the fact that 64% of this (formerly unemployed) group was working in 1992, suggests that postsecondary graduation can significantly improve the labour market prospects of unemployed people.

Table 2.8 Unemployment rates by graduates' main pre-enrolment activities

	1990 graduates main activity in the 12 months before enrolling		
	<u>working</u>	<u>going to school</u>	<u>looking for work</u>
	June 1992 unemployment rate (%)		
Trade/vocational	17.6	16.2	34.9
Career/technical	8.8	9.7	22.8
University	8.2	11.6	21.3

For the class of 1990, trade/vocational graduates' average periods of 7.7 months of unemployment in the two years following graduation exceeded the 5.8 months and 5.4 months, respectively recorded

for career/technical and university graduates¹⁰. Dismal labour market conditions during the early 1990's led to 1990 graduates having longer periods of unemployment than those experienced by 1986 graduates (Chart 2.10). Thus, not only were 1990 graduates more likely to be unemployed than their predecessors from the class of 1986, their periods of unemployment were also longer than those experienced by 1986 graduates.

Chart 2.10: Average duration of unemployment* in the two years following graduation



*Average number of months looking for work while not a full-time student, among those who were unemployed at some point in the two years after graduation.

The periods of unemployment for women in the class of 1990 were slightly shorter than for men. Male graduates from career/technical programs could expect to be unemployed for three more weeks than their female classmates in the two years following graduation. However, no significant difference by gender was evident for trade/vocational and university graduates.

¹⁰Average number of months looking for work while not a full-time student. These figures are compiled only for graduates who were unemployed at some point in the two years after graduation.

2.7) SUMMARY

Nearly three of every four 1990 graduates were working full time in June 1992. Graduates from doctoral programs enjoyed the most success with 87% working full time. Trade/vocational graduates were the least successful - nevertheless, 64% had full-time employment in 1992.

Just over one in ten of the 1990 graduates were working part time two years after graduating. More than half of these part-time workers did so because they could not find a full-time job. At all education levels for the class of 1990, women were two to three times more likely than men to be working part time in 1992.

The June 1992 unemployment rates among 1990 career/technical and university graduates closely resembled the 11% rate of Canada's overall labour force. In contrast, graduates from trade/vocational programs experienced an unemployment rate of 20%.

CHAPTER 3: GRADUATES' FINANCES

by Don Little

A major reason to pursue postsecondary studies is to enhance one's employment earnings following graduation. Sections 3.1 and 3.2 show that 1990 graduates had after-inflation earnings comparable to those of their predecessors from the classes of 1982 and 1986, and that the gender earnings gap among graduates narrowed. Section 3.3 examines differences, by field of study, in the median earnings of graduates working full time. The highest earnings went to graduates from health-related programs, while the lowest went to arts and humanities graduates. Section 3.4 examines graduates' personal incomes. Section 3.5 shows that 1990 graduates were more likely than their predecessors to borrow to finance their education, and that their loans were more sizeable.

3.1) EARNINGS FROM EMPLOYMENT

Many factors affect earnings: a graduate's initiative, level of education, field of study, previous work experience, place of residence, and occupation, as well as overall economic conditions.

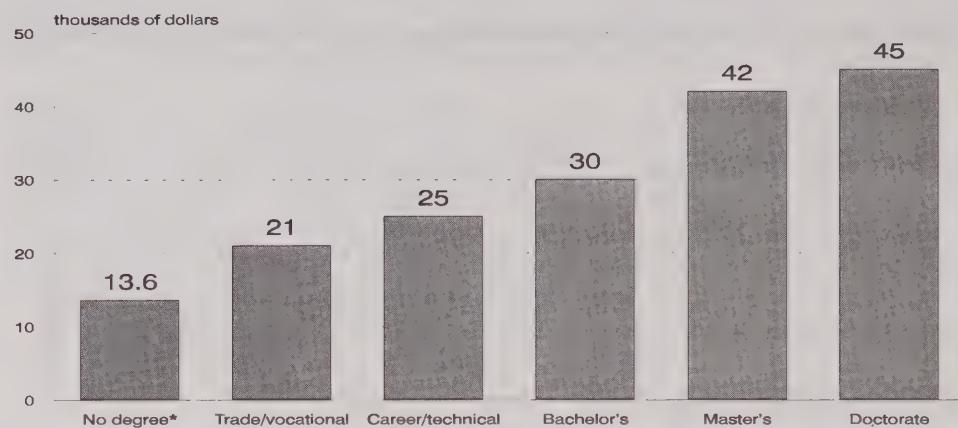
The 1990 graduates were asked to estimate their 1992 earnings¹ under the assumption that their June 1992 employment situations applied for all of 1992. Similar questions were asked of 1986 graduates about their May 1988 positions, and of 1982 graduates regarding June 1984. These results allow comparisons of 1990 graduates' earnings with those of their predecessors.

The estimated median² earnings of all 1990 graduates in 1992 climbed according to education level (Chart 3.1), ranging from \$21,000 for trade/vocational graduates to \$45,000 for doctoral graduates.

¹ Earnings include wages or salaries earned by paid workers as well as income from self-employment. Graduates estimated their gross earnings before taxes and deductions. These annualised earnings estimates based on June 1992 circumstances (June 1992 remuneration and usual hours worked) may differ from most graduates' true 1992 earnings for several reasons. Over the course of 1992 many graduates may have: changed jobs; been laid off; worked different hours; received raises; and so on. However, these occurrences, which cause earnings to deviate from the estimates given, will largely offset one another. Thus the 1992 earnings estimates are considered reasonable, because the deviations likely average out for groups of graduates. Unless otherwise stated, "earnings" refers to an estimate of annual earnings two years after graduation (i.e. 1986 graduates' earnings estimates are for 1988).

² When examining earnings (or incomes), medians transcend averages or means for the purposes of analysis, because they are unaffected by extremes, namely very high or very low earnings. For example, if a respondent earned \$40 million in 1992, the average earnings for 40,000 respondents would be inflated by \$1,000 per graduate. However, because medians use the earnings of the middle person in the group being measured, they will remain relatively unaffected by an extreme response.

Chart 3.1: Median 1992 earnings of 1990 graduates increased by education level attained



*Includes all 20-29 year olds with no postsecondary diploma, certificate or degree. The data for this category come from Statistics Canada's 1993 Survey of Consumer Finances

Graduating from any postsecondary level was financially worthwhile - each level's median earnings far surpassed the \$13,600 median income³ for less educated young people (20-29 year olds with no postsecondary diploma, certificate or degree).

3.2) EARNINGS OF GRADUATES EMPLOYED FULL TIME

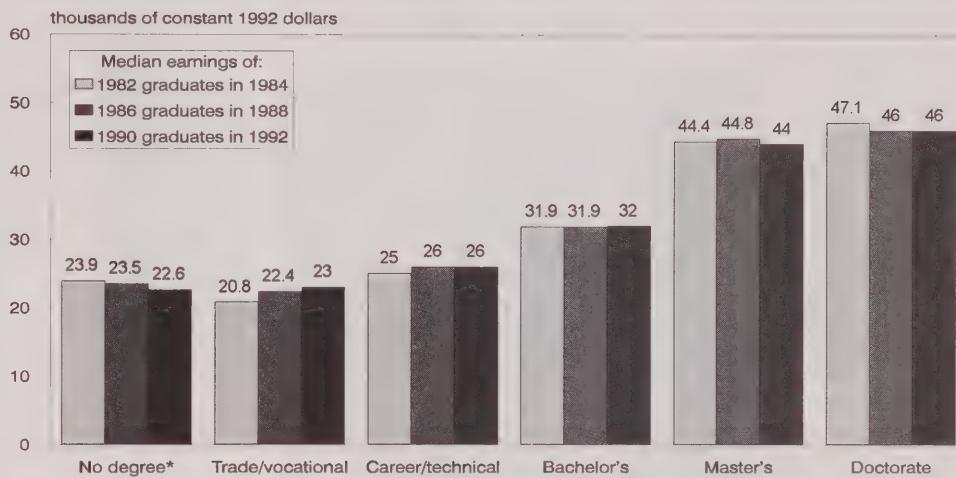
For 1990 graduates employed full time in 1992, median earnings rose by education level. Doctoral graduates led the way earning \$46,000, followed by master's recipients (\$44,000) and bachelor's graduates (\$32,000). Career/technical graduates earned \$26,000 while trade/vocational graduates earned \$23,000. Thus, although the 1990 career/technical graduates were more likely than bachelor's and master's degree recipients to be employed full time in 1992 (see Chapter 2), career/technical graduates working full time were not as well paid as university graduates. Nevertheless, median earnings for graduates of every level exceeded the \$22,600 median income of less educated 20-29 year olds working full time⁴.

³ In addition to earnings from wages and salaries and self-employment, this "income" also includes investment income and income from government. Thus the earnings gap between graduates and the less educated is understated here. The 1992 income estimate for less educated young people was prepared by Statistics Canada's Income and Housing Section, based on the Survey of Consumer Finances.

⁴ The difference between the less educated 20-29 year olds (\$22,600) and the trade/vocational graduates (\$23,000) is negligible. This may be due to a lack of previous work experience for trade/vocational graduates relative to the less educated 20-29 year old group, most of whom have spent recent years in the labour force rather than pursuing an education.

By controlling for inflation⁵, real earnings two years after graduation can be compared for the classes of 1982, 1986 and 1990 (Chart 3.2). For graduates employed full time, real earnings have generally been stable, despite significant peaks and troughs in the economy over the past decade⁶. Rather than lowering the earnings of 1990 graduates working full time, the latest recession instead reduced the percentage of graduates able to find full-time work⁷. In contrast, the incomes of less educated 20-29 year olds fell during the recession.

Chart 3.2: The median earnings of graduates working full time (2 years after graduation) have remained relatively stable



*Refers to the incomes (rather than earnings) of 20-29 year olds working full time, with no postsecondary diploma, certificate or degree. The data for this category come from Statistics Canada's Surveys of Consumer Finances (1985, 1989 and 1993).

Although the after-inflation earnings of 1990 graduates working full time resembled those of the class of 1986, shifts were evident by gender. At each education level, the growth rate of women's earnings between 1986 and 1990 exceeded that for men⁸. Except for master's graduates, the after-inflation earnings of women working full time grew at every level. In contrast, the earnings of men increased, albeit slightly, at only the trade/vocational and career/technical levels. After taking inflation into

⁵ The earnings of 1982 and 1986 graduates are converted into constant 1992 dollars using multipliers derived from changes in the Consumer Price Index.

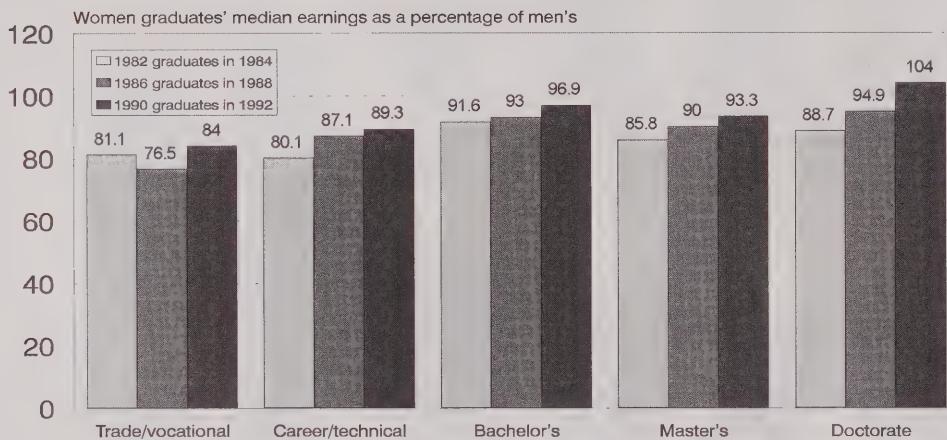
⁶ The only exception arose for the trade/vocational category where median earnings rose for both 1986 and 1990 graduates.

⁷ Chapter 2 describes how the class of 1990 was less successful than the class of 1986 at finding full-time work. The class of 1990 had more graduates that were unemployed or working part time than the class of 1986.

⁸ This also applies if one examines the rates of growth from the class of 1982 to the class of 1990.

account, men graduating from university in 1990 earned 4% less, two years following graduation, than men graduating in 1986. Nevertheless, although the gender earnings gap narrowed, for 1990 graduates working full time in 1992, male graduates generally continued to earn more than their female classmates (Chart 3.3)⁹. However, the earnings gap tended to be lower among better-educated graduates.

Chart 3.3: The gender earnings gap* among graduates is narrowing



*Encompasses graduates working full time two years following graduation.

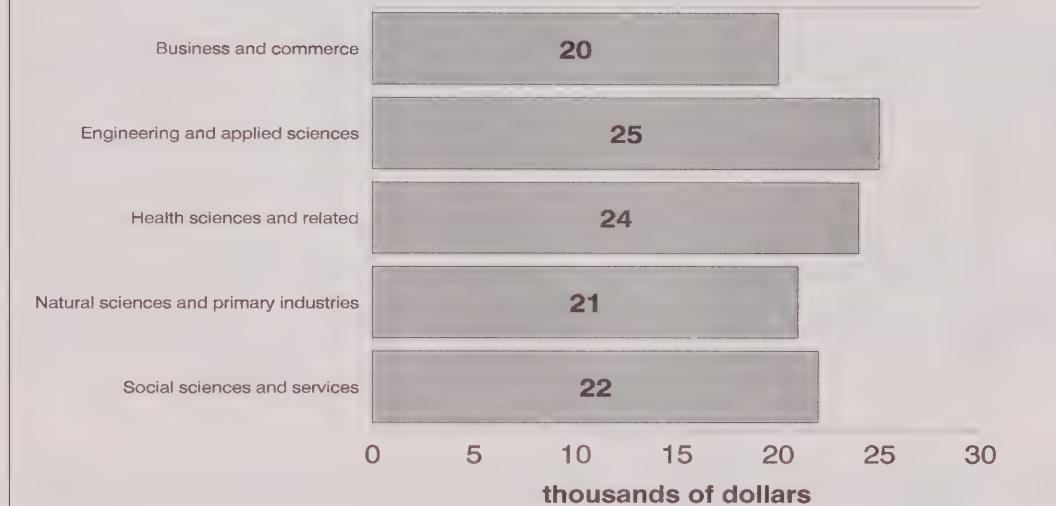
Results were inconclusive in attempts to compare the median earnings of graduates from employment-equity target groups such as aboriginal peoples, visible minorities and the disabled to similarly educated persons outside these groups. Few statistically significant earnings differences were found. These inconclusive comparisons were for graduates employed full time two years after graduation. Chapter 2 demonstrated, however, that relative to other graduates, those from employment-equity target groups had more difficulty landing employment. Thus, although disadvantaged graduates may have had similar incomes when employed full time, they continued to be under-represented in the ranks of graduates working full time, and over-represented among the unemployed.

⁹ Analysis of earnings gaps requires more elaborate research to incorporate the effects of additional causal factors such as: number of hours worked, previous work experience, field of study, province of residence, etc. Two such studies, based on NGS data, have been co-authored by Ted Wannell and Nathalie Caron of Statistics Canada on behalf of Human Resources Development Canada. The research papers are: "The Gender Earnings Gap Among Recent Postsecondary Graduates, 1984-92"; and "A Look at Employment-Equity Groups Among Recent Postsecondary Graduates: Visible Minorities, Aboriginal Peoples and the Activity Limited".

3.3) EARNINGS BY FIELD OF STUDY AND PREVIOUS WORK EXPERIENCE

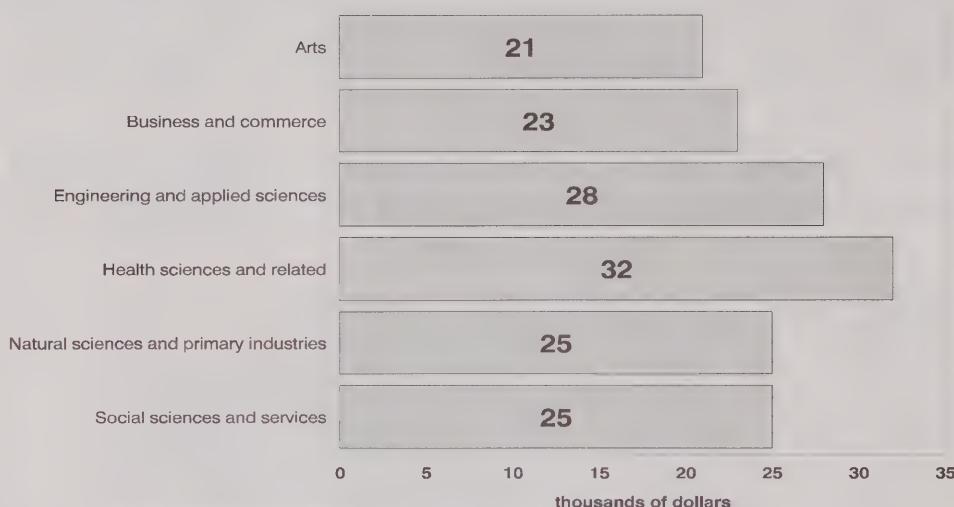
Focusing only on 1990 graduates working full time in 1992, we find graduates' fields of study impacted upon their median earnings. At the trade/vocational level, graduates from the engineering and applied sciences field earned the most in 1992, making \$25,000 (Chart 3.4). Conversely, business and commerce graduates had median earnings of \$20,000.

Chart 3.4: Median annual earnings of 1990 trade/vocational graduates working full time two years after graduation, by field of study



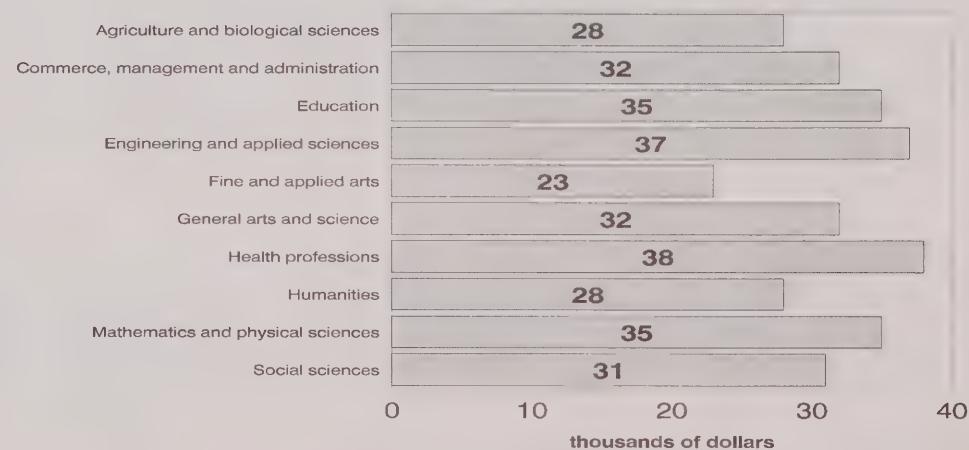
At the career/technical level, the highest median earnings of \$32,000 went to graduates from health-related fields (Chart 3.5). Arts graduates made the least, earning \$21,000.

Chart 3.5: Median annual earnings of 1990 career/technical graduates working full time two years after graduation, by field of study



Among university graduates, those from health-related fields again fared best with median earnings of \$38,000, followed closely by engineering and applied sciences graduates who made \$37,000 (Chart 3.6). Fine and applied arts graduates made the least, with median earnings of \$23,000.

Chart 3.6: Median annual earnings of 1990 university graduates working full time two years after graduation, by field of study

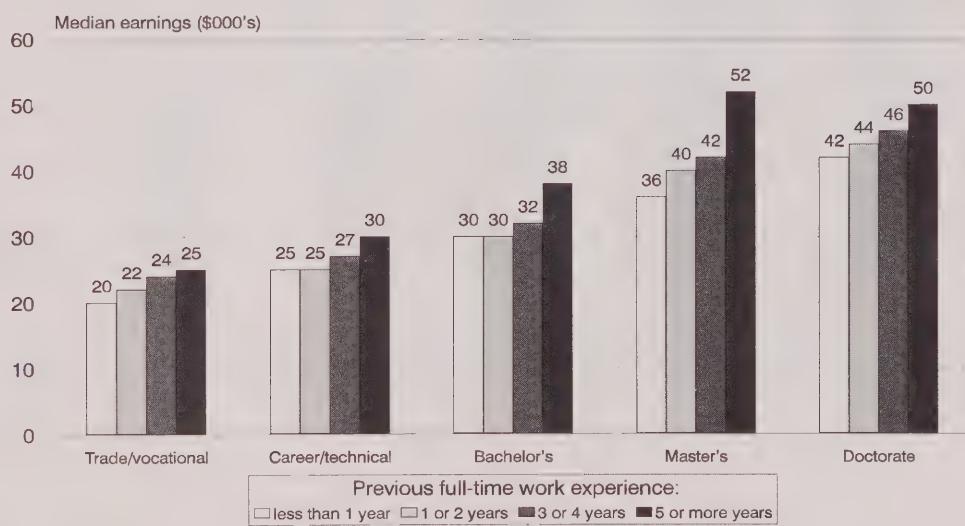


Thus, over all education levels, among the 1990 graduates employed full time in 1992, the highest median annual earnings went to graduates from health-related fields of study. Not coincidentally, graduates from these fields also had the lowest unemployment rates of the class of 1990, further indicating that demand for graduates from health-related fields was high relative to supply. Conversely, not only were graduates from the arts and humanities fields more likely than other graduates to be unemployed, those that did land full-time employment also had the lowest median annual earnings.

Employers also preferred graduates with previous work experience. For each education level, the more work experience that graduates had accumulated beforehand, the less likely they would be unemployed after graduating, and the greater their likelihood of having higher median earnings if employed full time (Chart 3.7).

Although not a factor for career/technical graduates, work experience drawn from co-op programs led to higher earnings for university graduates. Among the 1990 university graduates employed full time in 1992, graduates from co-op programs had median earnings of \$36,000 while those lacking co-op experience earned \$32,000. The earnings increases emanating from co-op programs accrued mostly to bachelor's degree recipients.

Chart 3.7: Previous work experience* improved the earnings of 1990 graduates working full time two years after graduation



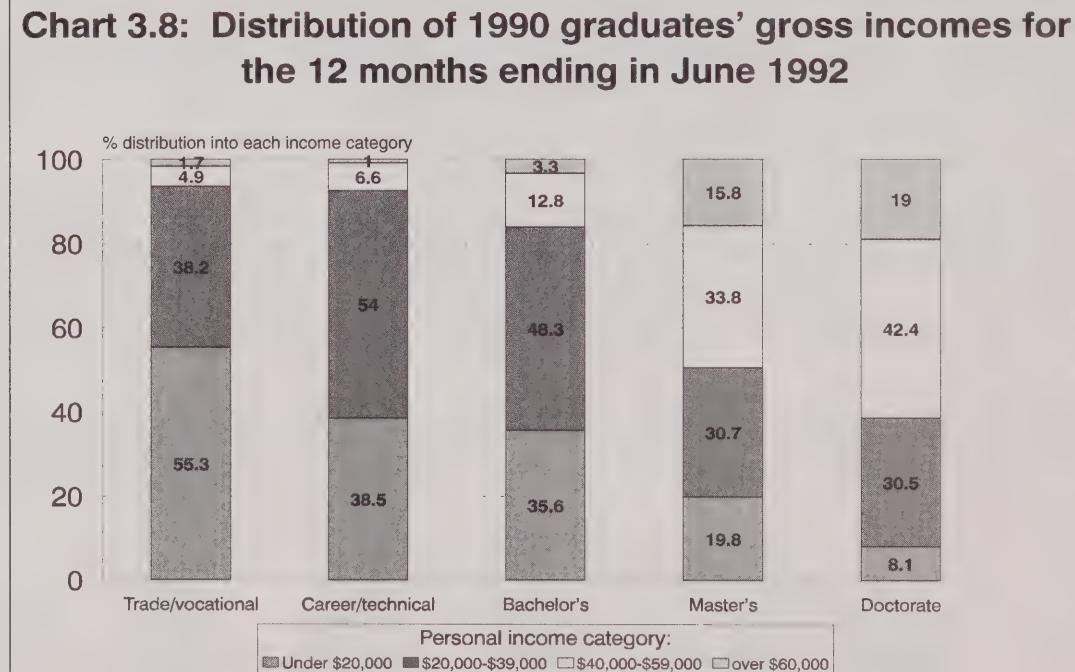
*refers to previous full-time work experience

3.4) PERSONAL INCOME

The 1990 graduates were also asked to quantify their gross personal incomes over the previous twelve months (from July 1991 to June 1992). In addition to earnings from wages and salaries, personal income also includes investment income and income from government benefits.¹⁰

As with earnings, graduates with higher education levels more often had higher incomes. While 16% and 19% of 1990 master's and doctoral graduates respectively had annual incomes over \$60,000, under 3% of the remaining graduates were in this category (Chart 3.8). Over half of all master's and doctorate recipients had incomes exceeding \$40,000, while less than one in ten trade/vocational and career/technical graduates could say the same. 55% of all trade/vocational graduates had annual incomes below \$20,000.

Chart 3.8: Distribution of 1990 graduates' gross incomes for the 12 months ending in June 1992

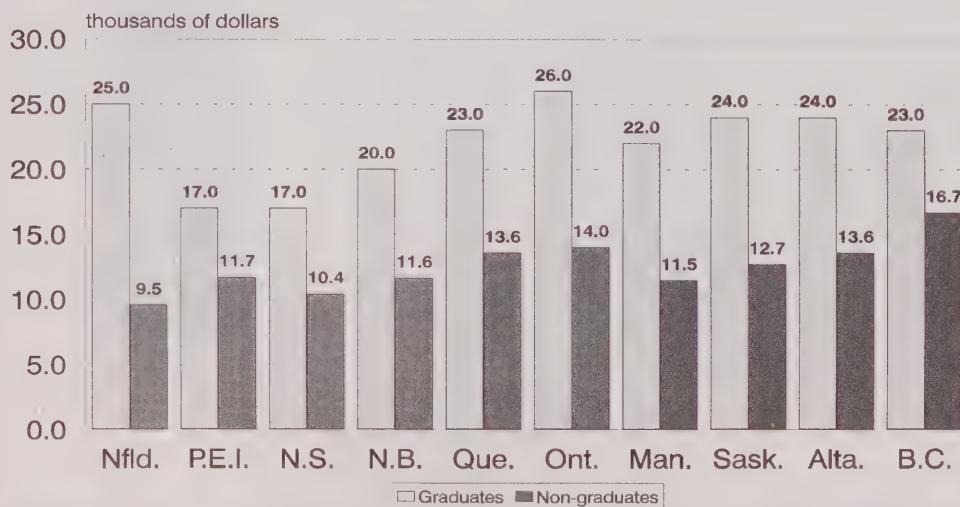


¹⁰ Gross personal incomes are before taxes and deductions. Aside from employment earnings, other sources of income may include interest, dividends, royalties, unemployment insurance benefits, family allowance benefits, scholarships, alimony receipts, and so on. Because gross personal incomes encompass more income sources, for those respondents with high non-earnings incomes, gross personal incomes can deviate significantly from employment earnings.

The proportion of women with incomes below \$20,000 was higher than the proportion for men, particularly at the trade/vocational level. At each education level men were over-represented in the highest income group - those making over \$60,000.

The median income of all 1990 graduates was \$24,000. The median income for graduates exceeded that for the less educated in every province¹¹ (Chart 3.9). The largest disparity was in Newfoundland where the median income for graduates was 2.6 times higher than for non-graduates. The lowest disparity was in British Columbia where the corresponding multiple was 1.4. While the highest median income of \$26,000 for graduates was recorded in Ontario, the lowest medians were found in Prince Edward Island and Nova Scotia (\$17,000).

Chart 3.9: Median 1992 earnings of 1990 graduates, compared to the gross incomes of 20-29 year old non-graduates



*Median incomes for non-graduates are from Statistics Canada's 1993 Survey of Consumer Finances, and refer to the incomes (rather than earnings) of 20-29 year olds working full time, with no postsecondary diploma, degree or certificate.

While the median gross income of male graduates was \$25,000, the corresponding figure for women was \$23,000. Male graduates had higher median incomes than females in every province except New Brunswick where the median income was \$20,000 for each sex. The gender gap was largest in Alberta, where the median income for women graduates was 85% of that for men¹².

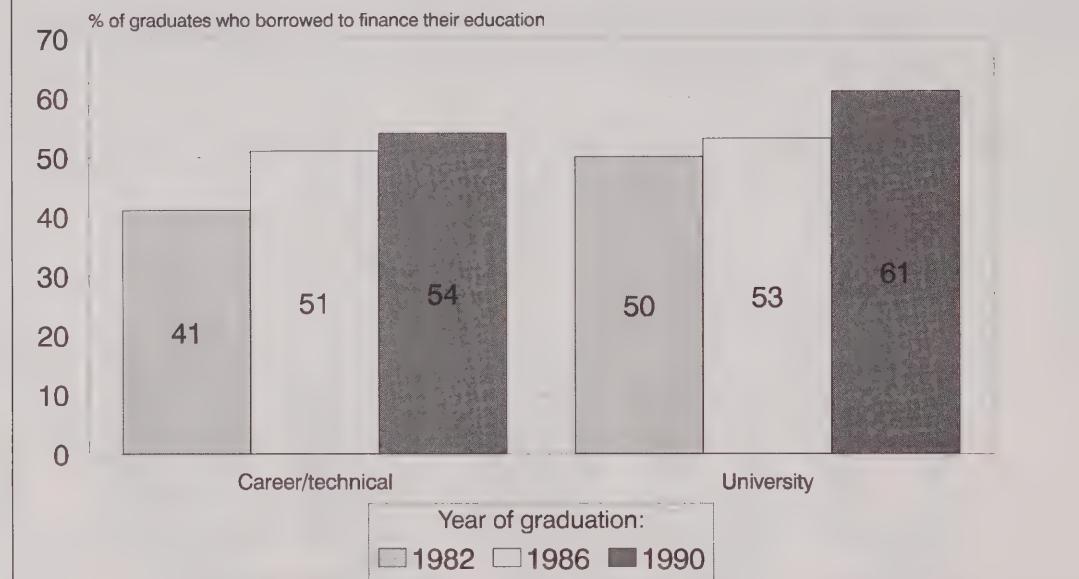
¹¹ Province refers to the province of residence at the time of interview - two years after graduation.

¹² The median income for male graduates residing in Alberta was \$26,000. The figure for women was \$22,000.

3.5) GRADUATES BORROWED MORE TO FINANCE THEIR EDUCATION

From the class of 1990, 54% of career/technical and 61% of university graduates borrowed for the purpose of financing their education¹³. These percentages exceeded those for the classes of both 1982 and 1986 (see Chart 3.10).

Chart 3.10: Graduates have increasingly borrowed to finance their education



As with their predecessors from the classes of 1982 and 1986, 1990 graduates relied heavily on student loan programs. Of the 1990 career/technical and university graduates taking loans to finance their studies, 85% and 83% respectively borrowed from student loan programs.

The 1990 university graduates, in particular, were more likely to have borrowed to finance their education than their predecessors. This is largely because the cost of a university education has grown faster than the financial resources students depend on. The tuition fee price index¹⁴ rose 92% from

¹³ Graduates from the trade/vocational level were not asked these questions regarding the financing of their education.

¹⁴ The tuition fee price index is calculated by Statistics Canada's Prices Division as one of the components of the Consumer Price Index. It is based on fees paid for university programs leading to a Bachelor of Arts, Commerce or Engineering degree.

1984 to 1992. Conversely, during the same period, the maximum assistance a student could receive under the Canada Student Loans Program rose by 5%¹⁵.

Considering that the median age of university graduates was 24 for each of the classes of 1982, 1986 and 1990, graduates typically began their university studies at age 22 or younger. By this age few graduates have saved enough to cover all of their education expenses by themselves. Most rely on their families, their own employment income and/or student loans. However, average family incomes rose by just 6% after inflation from 1984 to 1992¹⁶. Furthermore, a concurrent 8% decline in the after-inflation median income of 20-29 year olds without any postsecondary certification¹⁷ suggests that students were unable to earn or save as much as their predecessors from the classes of 1982 and 1986. Since neither family incomes nor students' employment incomes grew at close to the 92% rate that tuition fees did, graduates had to increasingly rely on loans to pay for their education.

Not only were graduates more likely to have taken loans, they also borrowed larger amounts (Chart 3.11). Among borrowers in the class of 1990, career/technical graduates' debt loads at the time of graduation averaged \$7,300 - a 14% real increase over the average borrowings of 1986 career/technical graduates¹⁸. University graduates' average borrowings rose at a faster rate of 26% to \$11,150. Again, the marked real growth of university graduates' borrowings reflected higher education costs, possibly coupled with a relative lack of growth in non-loan resources available to students.

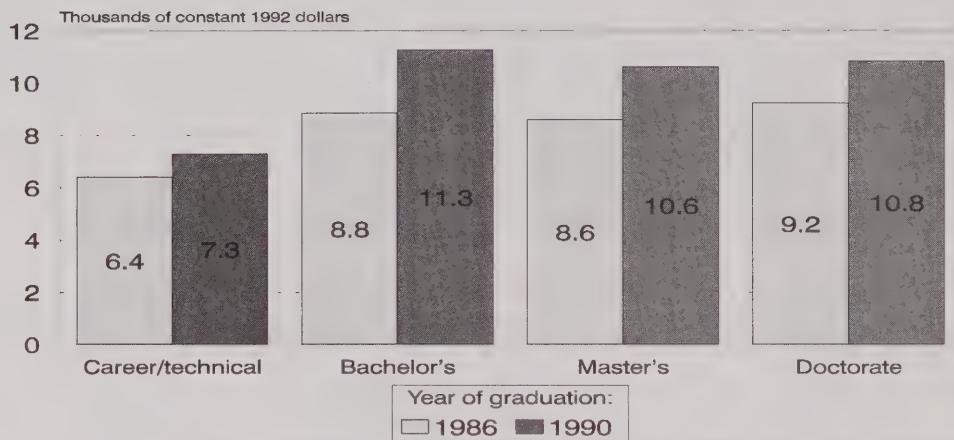
¹⁵ The maximum assistance a student could receive under the Canada Student Loans Program (CSLP) for one academic year was \$100 per week of course in the 1984-85 school year. This rose to \$105 per week by 1992-93. For more information, see the sections describing financial aid information in various annual editions of "Tuition and living accommodation costs at Canadian universities", Statistics Canada Catalogue 81-219. It should be noted that the 5% CSLP increase does not incorporate changes to other sources of financing such as those provided directly by provincial governments.

¹⁶ Average family income (in constant 1992 dollars) rose from \$50,456 in 1984 to \$53,676 in 1992. Source: Statistics Canada Catalogue 13-207.

¹⁷ In 1992 the median income was \$13,613, down from \$14,779 (1992 dollars) in 1984.

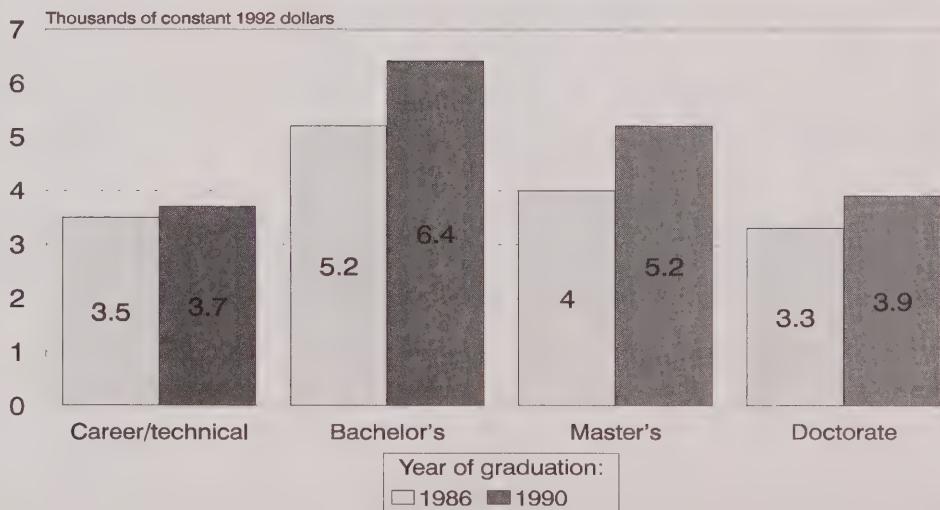
¹⁸ All loan amounts are converted into 1992 dollars using multipliers derived from the Consumer Price Index. The use of constant 1992 dollars makes historical comparisons possible.

Chart 3.11: Average amounts borrowed by graduates who borrowed to finance their education



Most loans were drawn from student loan programs. Career/technical graduates drew 94% of their borrowed funds from these programs, while university graduates drew 88%. These proportions were similar to those for the class of 1986.

Chart 3.12: Average amounts owed two years after graduation by those who borrowed to finance their education



Compared to 1986 graduates, borrowers from the class of 1990 incurred larger debts to finance their education, and then proceeded to have less labour market success than their predecessors. Not surprisingly, therefore, two years after graduating, the class of 1990 was deeper in debt from education-related loans than the class of 1986 was in 1988 (Chart 3.12). Borrowers among 1990 university graduates owed an average of \$6,200 in 1992. In real terms this was 22% more debt than 1986 university graduates carried in 1988.

3.6) SUMMARY

Among those 1990 graduates employed full time in June 1992, median earnings increased by education level, a clear signal that staying in school can pay off later. Doctoral graduates led the way earning \$46,000, followed by master's recipients (\$44,000) and bachelor's graduates (\$32,000). Graduates from career/technical programs earned \$26,000, followed by trade/vocational graduates who made \$23,000.

After adjusting for inflation, the earnings of 1990 graduates employed full time in 1992 were similar to those of 1982 and 1986 graduates two years after they graduated. This occurred despite significant peaks and troughs in the economy over the last decade. Rather than lowering the earnings of 1990 graduates working full time, the recession of the early 1990's instead caused a reduction in the percentage of graduates able to find full-time work.

Among 1990 graduates working full time in 1992, male graduates continued to earn more than their female classmates. However, when comparing the classes of 1986 and 1990 two years after graduation, the gender earnings gap narrowed because, at each education level, the growth rate of women's earnings over the four years exceeded that for men.

1990 graduates were more likely than 1982 and 1986 graduates to have borrowed to finance their education. As well, they borrowed larger amounts than their predecessors from the classes of 1982 and 1986.

CHAPTER 4: LINK BETWEEN EMPLOYMENT AND EDUCATION

by Louise Lapierre and Don Little

The first section of this chapter will examine the relationship between graduates' employment and their fields of study. The second half will examine the educational qualifications required by employers when they hired the graduates.

4.1) RELATIONSHIP BETWEEN EMPLOYMENT AND FIELD OF STUDY

Most 1990 graduates wanted a job that corresponded to their field of study (Chart 4.1). Almost 90% stated that this was either important or very important. Graduates of career/technical and doctoral programs were the most likely to consider this link to be very important.

Chart 4.1: Importance that 1990 graduates attach to obtaining employment related to their field of study

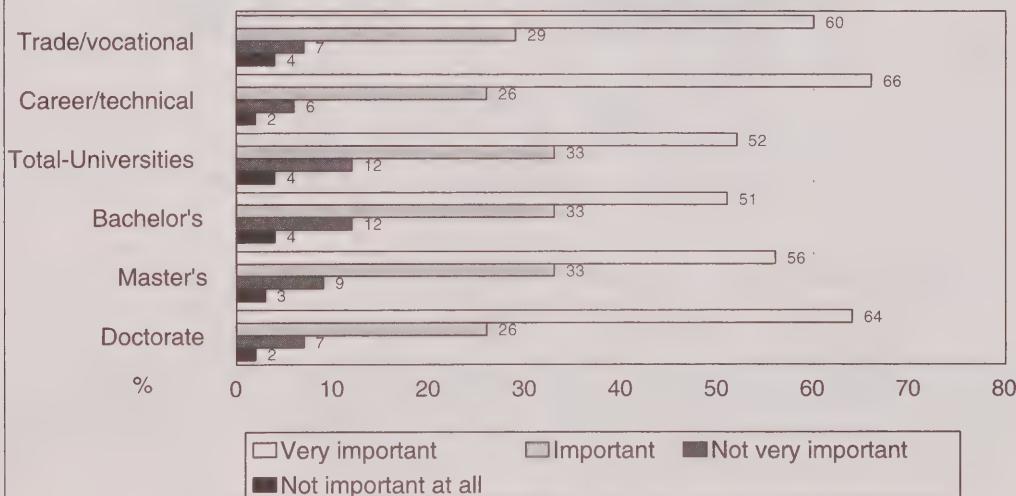
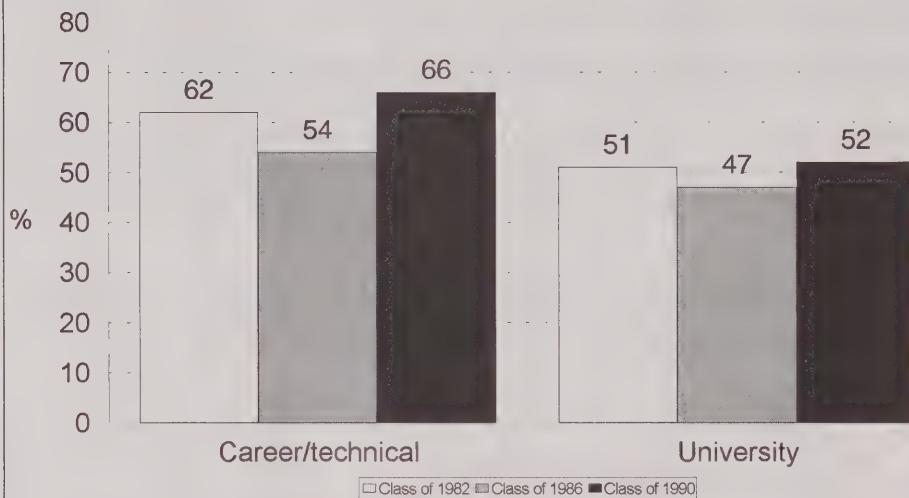


Chart 4.2 shows how the importance of this link has evolved since 1982 for career/technical and university graduates¹. The proportion of graduates who considered the correspondence between their field of study and their employment to be very important declined between 1982 and 1986, and then rose, so that it accounted for 66% of 1990 graduates of career/technical programs and 52% of university graduates.

Chart 4.2: Percentage of graduates who consider it "very important" that their employment be related to their field of study



Note: For 1990 trade/vocational graduates, the relevant percentage was 60%. This is omitted from the chart because no such trade/vocational figures are available for 1982 and 1986 graduates.

Many graduates working full time found jobs related to their field of study. For each education level except trade/vocational, at least half of the graduates working full time had positions directly related to their field of study (Table 4.1). 69% of master's and 80% of doctoral graduates found this type of employment, probably because graduate studies more easily lead to positions directly related to one's specialization. However, the proportions are also affected by the number of such persons who were in the labour market (especially those at the master's level) prior to returning to university to acquire additional knowledge relating to their occupation.

¹ Data concerning the link between employment and education are not available for trade/vocational programs for 1982 and 1986.

Table 4.1 Relationship between 1990 graduates' employment and education

Working full time in June 1992			Working part time in June 1992			
	Directly Related	Partially Related	Not Related	Directly Related	Partially Related	Not Related
%			%			
Trade/vocational						
Total	47	30	23	42	28	29
Men	42	30	29	23	24	52
Women	53	31	16	48	29	23
Career/technical						
Total	62	23	15	50	21	29
Men	57	25	18	29	25	46
Women	65	22	13	56	20	24
Total - Universities						
Total	59	27	14	42	28	31
Men	57	28	16	38	27	35
Women	60	27	13	43	28	29
Bachelor's						
Total	57	28	16	41	27	33
Men	54	28	18	36	27	37
Women	58	28	14	42	27	31
Master's						
Total	69	25	6	49	32	20
Men	67	27	7	52	22	26
Women	73	23	5	47	37	16
Doctorate						
Total	80	18	2	52	40	9
Men	80	18	2	52	38	10
Women	80	18	2	51	41	8

Smaller proportions of part-time workers held positions directly related to their field of study. Less than half of all 1990 graduates working part time found jobs related to their field of study. Nevertheless, about half of the master's and doctorate graduates found this type of employment.

A greater proportion of female than male graduates holds positions corresponding to their field of study, whether they work full time or part time. This occurred at all educational levels except the doctoral level.

Table 4.2 Percentage of 1990 graduates* whose work was related to their field of study, by level of importance to the graduate

	Directly Related	Partially Related	Not Related
%			
Total	62	25	13
Very important	73	20	8
Important	54	31	15
Not very important	34	35	30
Not important at all	20	37	43

* These graduates were employed full time in June 1992.

To what extent did the labour market meet the 1990 graduates' expectations of finding a job that corresponds to their field of study? Table 4.2 provides information on the importance that degree holders attach to finding such employment and on the actual labour market outcomes for full-time workers. The higher the importance they placed on having a job directly related to their field of study, the more likely they were to have such a job. Among graduates for whom having a job directly related to their field of study was very important, 73% indeed found a directly related job.

Table 4.3 Relationship between employment and education of 1990 graduates working full time in June 1992, by gender, education level, and type of educational program

	Graduates enrolled in co-op programs			Graduates not enrolled in co-op programs		
	Directly Related	Partially Related	Not Related	Directly Related	Partially Related	Not Related
	% 			% 		
Trade/vocational, career/technical graduates						
Total	65	24	11	66	22	12
Men	66	25	9	61	25	14
Women	64	24	12	69	20	10
Business and commerce	59	32	9	51	33	16
Engineering and applied sciences	74	18	--	69	20	11
University graduates						
Total	74	21	5	63	25	12
Men	75	21	4	61	26	13
Women	72	21	7	64	25	11
Commerce, management and administration	81	--	--	63	26	11
Engineering and applied sciences	81	16*	--	74	19	6
Mathematics and physical	78	19	--	68	22	10

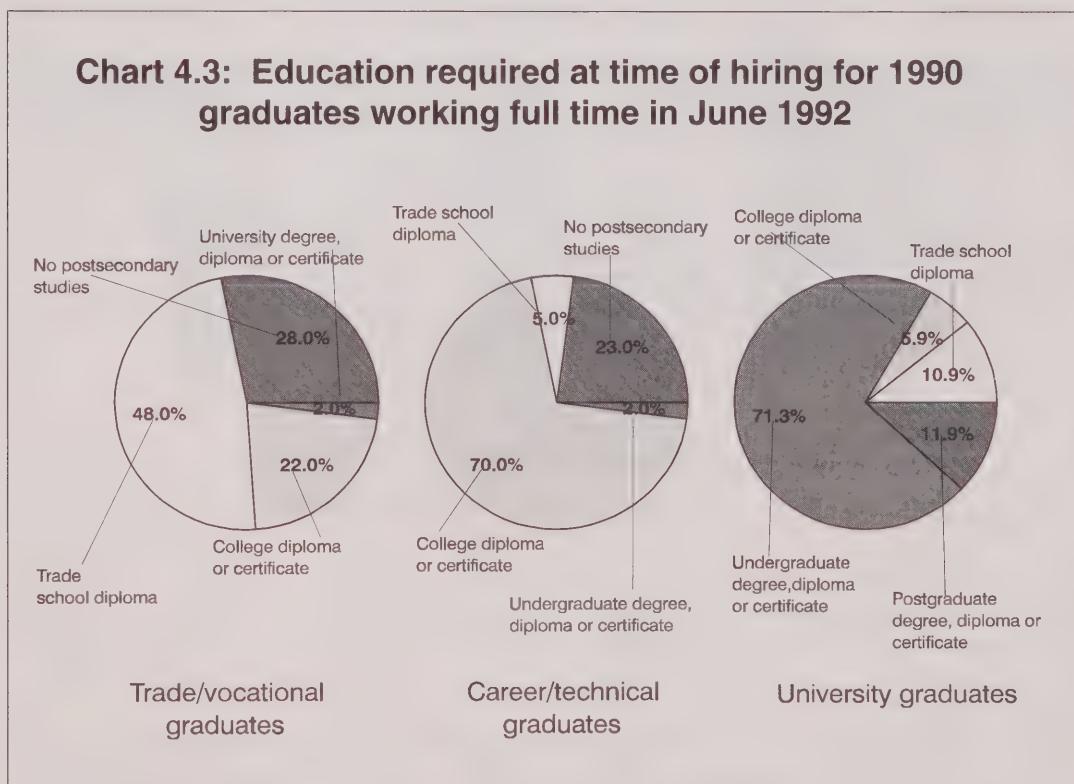
Table 4.3 illustrates the relationship between employment and education for the 1990 graduates who completed co-op programs versus those from regular programs. Career/technical graduates from co-op programs had similar success finding employment related to their fields of studies than graduates of regular programs. However, graduates of co-op programs in the fields of business and commerce, and engineering and applied science were more likely to find positions corresponding to their field of study than those not enrolled in such programs. At the university level, graduates of co-operative programs were more successful than their counterparts at finding jobs corresponding to their field of study.

4.2) EDUCATION LEVEL REQUIRED AT TIME OF HIRING

Chart 4.3 shows the educational qualifications required by employers when 1990 graduates were hired into their full-time 1992 positions. Some 70% of career/ technical graduates had the qualification required by their employer. Similarly, 88% of university graduates possessed the qualification being asked for.

The correspondence between the education received by trade/vocational graduates, and the education required by their employer, was not as high as for graduates of other levels. Less than half of the trade/vocational graduates found jobs for which the hiring criteria corresponded to their education, and almost 30% of these graduates held positions requiring no postsecondary education. The remaining 24% had jobs in which the qualification required exceeded their formal educational qualifications.

Chart 4.3: Education required at time of hiring for 1990 graduates working full time in June 1992



The educational requirements of employers upon hiring were more closely met by 1990 graduates than by their predecessors. An ever growing proportion of those graduates working full time have positions for which their academic qualifications match those that were required by their employer (Chart 4.4).

Chart 4.4: Proportion of graduates working full time two years after graduation and holding a position for which the hiring requirements corresponded to their training, by level, 1982, 1986 and 1990

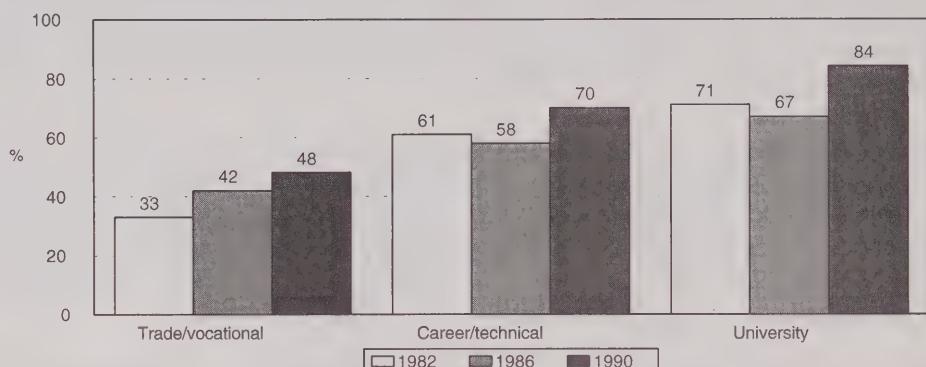


Table 4.4 Graduates employed full time by satisfaction² with their job, June 1992, by educational requirements at time of hiring and educational qualifications

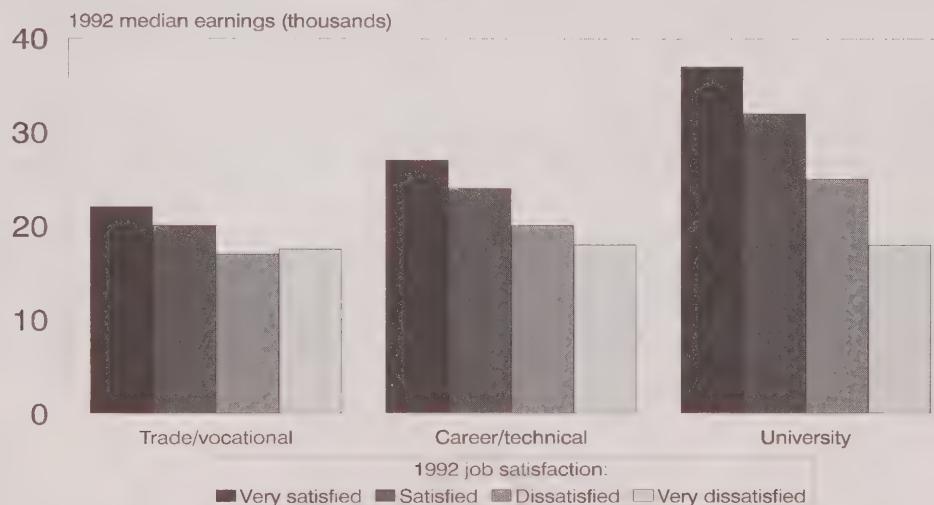
	Trade/vocational	Career/technical	Education Obtained	Total - Universities	Bachelor's	Master's	Doctorate
Education required:							
Graduates of trade/vocational and career/technical programs							
Total	2.45	2.42	--	--	--	--	--
Partial or no postsecondary studies	2.23	2.07	--	--	--	--	--
Partial postsecondary studies or trade/vocational diploma	2.52	2.47	--	--	--	--	--
College diploma or certificate	2.58	2.50	--	--	--	--	--
University degree, diploma or certificate	2.51	2.61	--	--	--	--	--
University graduates							
Total	--	--	2.42	2.40	2.49	2.56	--
Partial or no postsecondary studies	--	--	1.96	1.96	1.79	--	--
Partial postsecondary studies or trade/vocational diploma	--	--	2.27	2.28	2.04	--	--
College diploma or certificate	--	--	2.51	2.51	2.46	--	--
University degree, diploma or certificate	--	--	2.61	2.62	2.60	2.57	--

² The following scale was used to measure job satisfaction. Graduates were asked to consider all aspects of their job and indicate how satisfied they were: very satisfied, satisfied, not very satisfied or totally dissatisfied. Graduates who responded that they were "totally dissatisfied" were assigned a value of 0; "not very satisfied," 1; "satisfied," 2; and "very satisfied," 3. The mean value for each group of graduates was then calculated. A value of 3 would indicate that all the graduates were very satisfied with their job, and a value of 0 would indicate that they were totally dissatisfied. A group that obtained a higher value than the others thus had greater job satisfaction.

Table 4.4 shows graduates' job satisfaction. The highest satisfaction levels were reported by graduates working in positions requiring an education level higher than what they had obtained. In contrast, the lowest job satisfaction tended to be reported by graduates in positions requiring an education below what they had obtained. This tended to be true for graduates at all levels of education.

Graduates with the highest levels of job satisfaction had the highest earnings for their education level. Chart 4.5 shows that this was the case for each education level.

Chart 4.5: The earnings of graduates influenced their job satisfaction



4.3) SUMMARY

In short, most 1990 graduates working full time were able to find a job related to their field of study. An ever growing proportion of graduates at all educational levels, working full time, held a position for which the level of education required at the time of hiring was equivalent to their qualifications.

The highest job satisfaction was generally reported by graduates in jobs requiring education levels higher than the ones they had initially obtained. Those with the highest levels of job satisfaction for their education level also tended to have the highest earnings.

CHAPTER 5: FURTHER QUALIFICATIONS AND SATISFACTION WITH THE PROGRAMS

by Louise Lapierre and Don Little

The first section of this chapter examines additional education and qualifications that graduates pursued after graduation. A large proportion of 1990 graduates indeed pursued further education after graduation. The second section examines graduates' satisfaction with their education. It shows that over 75% of graduates, in retrospect, would have chosen the same field of study.

5.1) ADDITIONAL EDUCATION AND QUALIFICATIONS

The percentage of 1990 graduates who continued their education after graduating varied by level of education completed: 28% of trade/vocational graduates and 35% of career/technical graduates registered for a new program of study, while 49% of bachelor's graduates, 35% of master's, and 14% of doctoral degree holders did so (Tables 5.1 and 5.2).

Table 5.1 Percentage of 1990 trade/vocational and career/technical graduates who continued their education after graduating, by level of education and gender

	Trade/vocational	Career/technical	%
Total	28	35	
Men	27	35	
Women	29	36	
PROGRAM OF STUDY PURSUED AFTER GRADUATION			
Trade/vocational			
Men	12	4	
Women	10	3	
Career/technical			
Men	9	13	
Women	11	14	
University			
Men	3	15	
Women	6	16	
Other training			
Men	3	4	
Women	3	4	

After graduation, trade/vocational graduates were more likely to further their education at the trade/vocational or career/technical levels than at the university level. Career/technical graduates enrolled at the career/technical and university levels more often than they did at the trade/vocational

level. University graduates were five to six times more likely to pursue their additional education at the university level than at the trade/vocational and career/technical levels. The most popular after-graduation education levels for bachelor's graduates were other bachelor's programs and master's programs. Among master's graduates, doctorate-level courses were more frequently chosen than those of any other level. Thus, overall, graduates pursuing further education usually chose education levels at or above the levels from which they graduated.

Breakdowns by gender show that, at all education levels, similar percentages of male and female graduates continued their education after graduating in 1990.

Table 5.2 Percentage of 1990 university graduates who continued their education after graduating, by level of education and gender

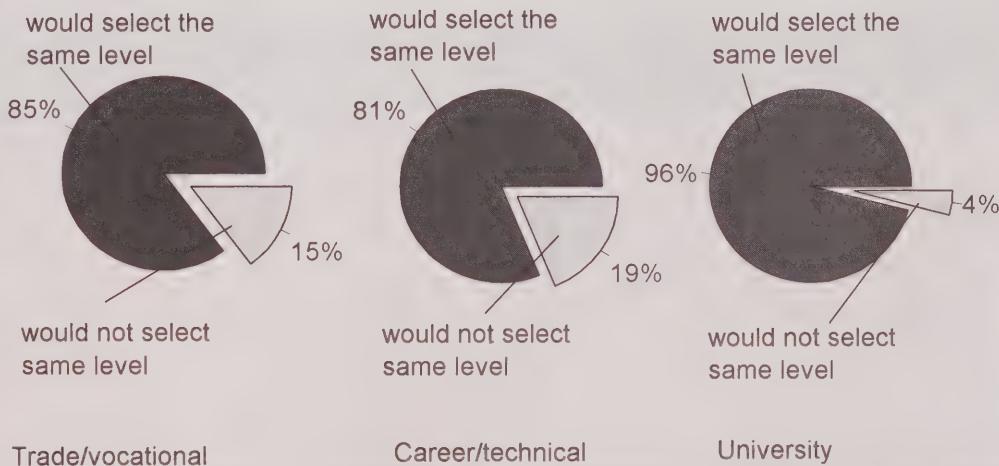
	Total-Universities	Bachelor's	Master's	Doctorate
Total	47	49	35	14
Men	46	49	37	13
Women	48	50	34	14
PROGRAM OF STUDY PURSUED AFTER GRADUATION				
Trade/vocational			%	
Men	1	2	1	1
Women	1	1	1	1
Career/technical				
Men	5	6	2	1
Women	6	7	3	2
Total - universities				
Men	36	38	29	9
Women	36	37	26	9
Undergraduate diploma or certificate				
Men	4	4	2	2
Women	6	6	4	2
Bachelor's				
Men	10	12	3	2
Women	12	13	4	2
Graduate diploma or certificate				
Men	4	4	2	1
Women	5	5	2	1
First professional degree (MD, DDS, DVM)				
Men	4	4	2	2
Women	3	4	1	2
Master's				
Men	12	14	4	1
Women	10	11	4	1
Doctorate				
Men	4	1	18	2
Women	2	1	12	3
Other training				
Men	5	5	5	3
Women	6	6	4	3

5.2) SATISFACTION WITH STUDIES

The survey investigated the overall satisfaction of 1990 graduates with their studies. Information was gathered on the choice of program, perceived benefits of the program compared with initial expectations, and respondents' satisfaction with certain program components.

Chart 5.1 shows the percentage of graduates who, in hindsight, said they would have chosen the same level of education. University graduates had the highest percentage indicating they would have chosen the same level.

Chart 5.1: 1990 graduates retrospective choice of educational level



In retrospect, 15% of trade/vocational graduates and 19% of career/technical graduates would have chosen another level, while only 4% of bachelor's, and 2% of master's and doctorate graduates would have done so.

Table 5.3 Percentage of 1990 trade/vocational and career/technical graduates who would have chosen a different field of study

	Trade/vocational	Career/technical
<i>%</i>		
Total	23	23
Arts	21	25
Business and commerce	22	29
Engineering and applied sciences	26	20
Health sciences and related	14	18
Humanities and related	11	13
Natural sciences and primary industries	27	23
Social sciences and services	19	22

Table 5.4 Percentage of 1990 university graduates who would have chosen a different field of study

	Total-Universities	Bachelor's	Master's	Doctorate
<i>%</i>				
Total	24	26	14	16
Agriculture and biological sciences	33	35	25	20
Commerce, management and administration	20	23	9	14
Education	16	17	14	10
Engineering and applied science	16	16	15	15
Fine and applied arts	20	20	14	35
General arts and science	31	31	13	11
Health professions	15	15	13	7
Humanities	27	30	12	16
Mathematics and physical sciences	23	24	16	23
Social sciences	28	30	13	12

Although some trade/vocational and career/technical graduates would have chosen another level of study, even more (23%) would have chosen a different field of study (Table 5.3). This percentage was, however, lower than that recorded for 1982 and 1986 graduates. The most dissatisfied group were trade/vocational graduates from the engineering and applied sciences, and the natural sciences

and primary industries fields. Among career/technical graduates, those from the business and commerce field were the most disappointed in their choice.

University graduates who would have chosen another field of study varied according to their actual field and level of study (Table 5.4). 26% of bachelor's graduates would have chosen another field. Graduates in agriculture and biological sciences were the most dissatisfied with their choice (35%), closely followed by general arts and sciences (31%), humanities (30%) and social sciences (30%) graduates. Although individuals with master's degrees had the lowest level of dissatisfaction, 25% of agricultural sciences graduates would have chosen a different field. Finally, at the doctoral level, the percentage of graduates who would have chosen another field was highest among applied arts (35%) and mathematics and physical sciences graduates (23%).

Table 5.5 Percentage of 1990 graduates who would have taken the same field of study, by number of months of unemployment after graduation

	Trade/vocational	Career/technical	Total-Universities	Bachelor's	Master's	Doctorate
%						
Total graduates who would choose the same program	75	74	73	72	84	81
Never been unemployed since graduating	80	76	76	74	86	83
1 to 2 months	72	70	67	65	80	78
3 to 5 months	71	70	68	67	75	81
6 to 8 months	67	66	64	63	70	67*
9 to 11 months	66	64	59	58	66	--
12 months or more	62	61	63	62	68	--

A graduate's disappointment in his/her field of study may be due to dissatisfaction with the program itself, or a lack of labour market success. Nevertheless, close to 75% of all graduates would have chosen the same field of study, indicating a high overall degree of satisfaction.

However, graduates with the longest periods of unemployment were the least likely to say they would choose the same field (Table 5.5). Still more than 6 in 10 of those graduates unemployed for one year or more would have, nonetheless, chosen the same field.

Table 5.6 shows the importance graduates attached to obtaining certain benefits from their education program, and the extent to which their program met these expectations. These benefits include: acquiring the skills required for a particular profession; in-depth knowledge in a field of study; general

self-improvement; improving chances for earning a high income; acquiring knowledge about career opportunities; developing writing and speaking skills; and development of critical thinking and decision making skills.¹ Note that trade/vocational graduates were not asked these questions.

	Career/technical	Total-Universities	Bachelor's	Master's	Doctorate	Average of all levels
Importance of acquiring the skills needed for a particular job	2.72	2.49	2.50	2.43	2.52	2.53
To what extent did the program provided the skills required for a particular job?	2.33	2.08	2.04	2.28	2.47	2.24
Importance of acquiring in-depth knowledge in a field of study	2.73	2.59	2.58	2.63	2.81	2.67
To what extent did the program provided in-depth knowledge in a field of study?	2.38	2.30	2.27	2.42	2.66	2.41
Importance of overall self-improvement	2.71	2.70	2.70	2.68	2.62	2.68
To what extent did the program allow for overall self-improvement	2.46	2.46	2.45	2.51	2.51	2.48
Importance of improving chances of a good income	2.62	2.44	2.49	2.17	1.94	2.33
To what extent did the program improve chances of earning a high income?	2.22	2.17	2.17	2.12	2.06	2.15
To what extent did the program provide knowledge of career opportunities in the field of study?	2.15	1.73	1.74	1.67	1.68	1.79
To what extent did the program develop good writing skills?	1.80	1.96	1.95	2.06	2.20	1.99
To what extent did the program develop good speaking skills?	1.92	1.95	1.95	1.98	2.11	1.98
To what extent did the program allow for critical thinking skills?	2.31	2.40	2.39	2.39	2.56	2.41
To what extent did the program develop decision making skills?	2.30	2.23	2.24	2.19	2.29	2.25

¹ Mean values were calculated based on a scale from a minimum value of zero (0) to a maximum value of three (3). For the questions measuring importance, (0) means "insignificant", while (3) means "very important". Answers (0) and (3) to the "to what extent ..." questions mean "not at all" and "to a large extent" respectively. Finally, satisfaction is expressed in terms of (0) when the graduates were very dissatisfied and (3) very satisfied.

Graduates placed the greatest importance on overall self-improvement (with an average importance score of 2.68) and in-depth knowledge in a field of study (2.67). This was followed by the acquisition of skills required for a particular profession (2.53) and improving the chances of earning a high income (2.33).

For these same four benefit categories, graduates were also asked to describe the extent they perceived their education delivered the specific benefit. On average, graduates perceived that the greatest benefit from their education was overall self-improvement (average extent score of 2.48), while the lowest was for improving the chances of earning a high income (2.15). Interestingly, the ranking of the importance scores was the same as the rank of the extent scores.

The largest discrepancies between the graduates' expectations and perceived benefits occurred in the following categories: acquisition of skills required for a particular profession and the acquisition of in-depth knowledge in a field of study. The expectations and perceptions of benefits varied according to education level. It may have been relatively more important for doctoral graduates to acquire in-depth knowledge in a field of study (2.81), while all the above-mentioned reasons may have been relatively important to career/technical graduates. Career/technical graduates had the highest expectations but also had the largest discrepancies between expectations and perceived outcomes.

Graduates from college programs were the most positive (2.15) when asked: "To what extent did the program provide knowledge of career opportunities in the field of study?" University graduates, by comparison, did not feel their programs provided them with as much knowledge of career opportunities (1.73).

The ratings for developing good writing and speaking skills increased by level of education, but the average rating was below 2. Finally, graduates at all levels said their programs were more successful at developing critical thinking and decision making skills than they were at developing communication skills.

Table 5.7 1990 graduates' satisfaction with their educational institutions' services

	Career/technical	Total-Universities	Bachelor's	Master's	Doctorate
Satisfaction with:					
Facilities	2.26	2.21	2.20	2.22	2.35
Class size	2.45	2.26	2.21	2.55	2.62
Teacher availability	2.46	2.25	2.23	2.37	2.27
Quality of teaching	2.27	2.16	2.15	2.21	2.23

In general, the graduates were satisfied with their education institutions' services (Table 5.7).² The highest satisfaction scores were for class size and the extent to which teachers were available to students. Although graduates ranked the services in the same order, satisfaction varied according to education level. Bachelor's graduates seem the least satisfied with the various services, while college and doctoral graduates were the most satisfied.

The lowest satisfaction was registered for institutions' facilities and teaching quality. Nevertheless, both categories still earned scores above "somewhat satisfactory".

5.3) SUMMARY

From the class of 1990, the percentages of trade/vocational, career/technical and university graduates who, in the subsequent two years, pursued additional studies were 28%, 35%, and 47% respectively.

Nearly 75% of 1990 graduates from the trade/vocational, career/technical, and bachelor levels would, in hindsight, have chosen the same field of study. Graduates with the longest periods of unemployment were the least likely to say they would choose the same field of study. On the other hand, 60% of those who were unemployed for 12 months or more still would have chosen the same field of study.

Graduates placed the most importance on their education program's provision of overall self-improvement and an in-depth knowledge of their field of study. In this regard, the institutions appeared to have largely met the graduates' wishes. The graduates also reported that their programs helped develop more critical thinking and decision making skills than writing and speaking skills.

²Satisfaction scores can range from 0 to 3. Mean values were calculated after assigning a value of 0 to responses of "very dissatisfied", a value of 1 to "somewhat dissatisfied", a value of 2 to "somewhat satisfied", and 3 to "very satisfied".

APPENDIX A

APPENDIX A: SURVEY METHODOLOGY

A.1) POPULATION COVERAGE

The National Graduates Survey was carried out in June 1992 through telephone interviews, with a survey methodology similar to that used in the surveys of 1982 and 1986 graduates.

The base population encompassed graduates from Canadian postsecondary education institutions who completed the requirements for degrees, diplomas, or certificates during the calendar year 1990. More specifically, these include:

1. graduates of university programs leading to bachelor's, master's or doctorate degrees, or specialized certificates/diplomas;
2. graduates of postsecondary programs (i.e. programs of one year duration or longer which normally require secondary school completion or its equivalent for admission) in the CAATs, CEGEPS, community colleges, technical schools, and similar institutions; and
3. graduates of skilled trades (i.e. pre-employment) programs which normally were 3 months or more in duration.

The population excludes:

- a) graduates from private postsecondary education institutions (e.g. commercial secretarial or computer programming schools);
- b) those who completed "continuing education" courses (unless these led to degrees or regular diplomas or certificates);
- c) those who took part-time trade courses (e.g. adult education evening courses) while employed full-time;
- d) persons who completed vocational programs
 - i) lasting less than three months, or
 - ii) other than in the skilled trades (e.g. basic training and skill development); and
- e) persons in apprenticeship programs.

The list or "frame" of 1990 graduates was provided by Canada's universities and colleges. For the trade/vocational frame, a supplementary list was obtained from Human Resources Development Canada of those who had taken trades training arranged for by the Department.

A.2) THE SAMPLE

The Survey of 1990 Graduates was based on a stratified systematic random sample design. The population was stratified first by province. Within each province, the graduates were stratified into five levels and nine fields of study for career/technical programs and ten fields of study for the trade/vocational and university programs. The five levels are:

1. trade/vocational (skilled trades);
2. career/technical (college);

3. undergraduate (degrees, diplomas, and certificates);
4. master's level (degrees, diplomas, and certificates);
5. doctorate.

The nine fields of study for career/technical programs and ten fields of study for trade/vocational and university programs were based on the 5-digit USIS (University Student Information System) and CCSIS (Community College Student Information System) major field of study codes. The field of study strata are as follows:

University field of study strata:

1. Agriculture and biological sciences;
2. Business commerce, law and economics;
3. Education;
4. Engineering and applied sciences;
5. Fine and applied arts;
6. General arts and science and no specialization;
7. Medical and health professions;
8. Humanities;
9. Mathematics and physical sciences; and
10. Other social sciences.

College field of study strata:

1. No specialization, arts, humanities, and unknown;
2. Health and related sciences;
3. Chemical technologies, transportation technologies, general engineering, aeronautical engineering, and industrial engineering;
4. Electrical and electronic technologies, mathematics and computer science ;
5. Mechanical engineering, architectural and construction engineering;
6. Natural sciences and primary industries;
7. Social sciences and services;
8. Secretarial sciences, merchandising and sales, service industry technologies, and miscellaneous; and
9. Management and administration.

Trade/vocational field of study strata:

1. No specialization, arts, arts and science, transportation technology, merchandising and sales, and service industry technology;
2. Health services and related, social sciences and services;
3. Electrical and electronic technologies;
4. Automotive mechanics;
5. Other mechanical;
6. General engineering, architectural and construction engineering;

- 7 Engineering technologies, chemical technology, architectural design, drafting technology, and industrial engineering;
8. Natural sciences and primary industries;
9. Journalism, and secretarial science; and
10. Mathematics and computer science, business and commerce, and management and administration.

The sample allocation to the strata was made to assure acceptable levels of detail and therefore acceptable data reliability for the provinces, education levels and fields of study. An independent systematic random sample of allocated size was selected from each stratum. Table A.2 (at the end of this Appendix) provides the sample sizes and the number of responses by province and level of qualification for the Survey of 1990 Graduates.

A sample of 51,111 was selected for the 1992 National Graduates Survey. Interviewers attempted to contact all graduates in the sample, initially using the telephone numbers provided by their institution. Telephone directories, city directories, alumni lists, professional associations, local taxation offices, and motor vehicle licence bureaus were also used to trace graduates in the selected sample. Some 36,280 (or 71%) were contacted and interviewed.

Status	Number	Percent
Contacted and completed or partial interview	36,280	71.0
Refusal	593	1.2
Already contacted (duplicate)	377	0.7
Absent for duration of survey	1,344	2.6
Unlisted telephone number	381	0.8
No answer (after several tries)	627	1.2
Can't be reached by telephone	524	1.0
Unable to trace	4,356	8.5
Interview ended at item 2	1,880	3.7
No longer living in Canada	1,823	3.6
Deceased	56	0.1
Other	2,870	5.7
Total	51,111	100.0

The total number of persons in the sample for the Survey of 1990 Graduates and the corresponding number of respondents were distributed by province/territory as follows:

Province/Territory	Selected Sample Size	Number of respondents
Newfoundland	2,468	1,902
Prince Edward Island	1,165	948
Nova Scotia	3,271	2,613
New Brunswick	2,691	2,269
Quebec	9,092	6,591
Ontario	14,340	9,837
Manitoba	3,264	2,602
Saskatchewan	3,030	2,338
Alberta	5,024	3,292
British Columbia	5,954	3,639
Yukon	199	93
N.W.T.	613	156
Canada	51,111	36,280

Sampling error

The estimates derived for this survey are based on a sample of graduates. Somewhat different results may have been obtained if a complete census had been taken using the same questionnaires, interviewers, supervisors, processing methods, etc. The differences between the estimates derived from the sample and those derived from a census taken under similar conditions is called the sampling error.

In general, the value of the sampling error is unknown, but it is possible to estimate its probable size using sample data. The sampling variance gives us an indication of the size of the sampling error assuming simple random sampling within each strata and the absence of bias. The size of the sampling error is often reported using the ratio of the standard deviation (the square root of the sampling variance) to the estimate and is called the coefficient of variation or "cv", an indicator of data reliability.

The sampling error can also be expressed as a confidence limit (i.e., the estimate is guaranteed to be within a range of values a certain percentage of the time, e.g. 95% of the time). The coefficient of

variation expressed as a confidence limit means that two times out of three, the error in the estimates will be less than or equal to the value of the CV. For example if the CV is .10 (10%), then the standard deviation is 10% of the estimate. Data reliability is also often expressed as a 95% confidence limit (within two standard deviations of the estimate). The level of data reliability and the guidelines for publishability are shown in Table A.1.

Table A.1 Sampling variability guidelines for the National Graduates Survey

Type of Estimate	CV(%)	Guidelines
1. Unqualified	0.0-16.5	Estimates can be considered for general unrestricted release. Requires no special notation.
2. Qualified	16.6-25.0	Estimates can be considered for general unrestricted release but should be accompanied by a warning cautioning subsequent users of the high sampling variability associated with the estimates. Such estimates are identified by the symbol "*".
3. Not for release	25.1 or greater	Estimates cannot be released in any form under any circumstances. Such estimates are deleted and replaced by "--".

In this publication, where the coefficient of variation (cv) is 0.0 - 16.5%, the estimate is unqualified and there is no special notation in the text. For cv's in the 16.6 - 25% range the estimate is qualified by an asterisk (*), which indicates that high sampling variability is associated with the estimate and it should be used with caution. Estimates with cv's above 25% are not published and are replaced by a double dashes (--). Reliability of these estimates would be too low to allow release.

A.3) **WEIGHTING**

The principle behind estimation in a probability sample such as the Survey of 1990 Graduates is that each person in the sample "represents", besides himself or herself, several other persons not in the sample. For example, in a simple random sample of 2% of the population, each person in the sample represents 50 persons in the population.

The weighting phase is a step which calculates, for each record, how many persons each respondent record represents. This weight appears on the microdata file, and must be used to derive meaningful estimates from the survey. Table A.2 shows the number of graduates, the sample sizes, the usable responses and the "weighted" usable responses.

Table A.2 The number of graduates, the sample sizes, usable responses and weighted usable responses

Education level/ province of study	Total graduates	Sample size	Usable response NGS	Weighted usable responses
Trade/vocational				
Canada	52,990	14,231	8,137	44,321
Newfoundland	1,475	863	574	1,250
Prince Edward Island	396	396	286	323
Nova Scotia	4,167	1,086	799	3,655
New Brunswick	2,384	916	701	2,042
Quebec	5,853	1,504	798	4,400
Ontario	17,118	3,431	1,786	13,813
Manitoba	2,088	836	618	1,857
Saskatchewan	1,763	795	569	1,553
Alberta	4,992	1,461	731	4,108
British Columbia	12,070	2,259	1,104	11,031
Yukon	169	169	73	120
Northwest Territories	515	515	98	169
College				
Canada	59,575	11,763	8,883	57,102
Newfoundland	807	590	479	784
Prince Edward Island	602	412	338	543
Nova Scotia	786	489	417	713
New Brunswick	746	494	450	730
Quebec	15,909	1,965	1,539	15,597
Ontario	23,968	3,591	2,699	22,725
Manitoba	1,416	681	588	1,377
Saskatchewan	1,333	690	531	1,244
Alberta	7,262	1,421	892	7,029
British Columbia	6,618	1,302	872	6,256
Yukon	30	30	20	26
Northwest Territories	98	98	58	78
University				
Canada	133,990	25,117	19,260	126,180
Newfoundland	2,538	1,015	849	2,408
Prince Edward Island	465	357	324	445
Nova Scotia	6,460	1,696	1,397	6,045
New Brunswick	3,328	1,281	1,118	3,198
Quebec	31,232	5,623	4,254	30,003
Ontario	57,544	7,318	5,352	53,904
Manitoba	5,732	1,747	1,396	5,330
Saskatchewan	5,365	1,545	1,238	5,071
Alberta	10,326	2,142	1,669	9,715
British Columbia	11,000	2,393	1,663	10,061
Yukon	--	--	--	--
Northwest Territories	--	--	--	--

APPENDIX B

Table B-1A Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Both sexes	Number of graduates	Labour force status June 1992						Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemploy- ment rate (%)		
Total (all fields of study)	44,321	64	11	18	7	20	23	
Arts	1,746	59	15	17	9*	19	17	
Commercial and promotional arts	-	-	-	-	-	-	-	
Commercial arts	-	-	-	-	-	-	-	
Creative and design arts	-	-	-	-	-	-	-	
Fashion arts	342	41*	31*	-	-	-	-	
Interior decorating	191*	47*	-	-	-	-	-	
Other creative and design arts	-	-	-	-	-	-	-	
Fine arts	-	-	-	-	-	-	-	
Handicrafts	-	-	-	-	-	-	-	
Sculpture and painting	-	-	-	-	-	-	-	
Other fine arts	-	-	-	-	-	-	-	
Graphic and audio-visual arts	348	65	-	-	-	-	22*	
Photography	-	75	-	-	-	-	-	
Printing and publishing	191*	54	-	-	-	-	-	
Other graphic and audio-visual arts	-	80	-	-	-	-	-	
Mass communications	155*	61	-	-	-	-	-	
Cinematography/film production/animation	-	-	-	-	-	-	-	
Radio and television broadcasting	-	80*	-	-	-	-	-	
Other mass communications studies	709	65	-	-	-	-	20*	
Personal arts	485	71	-	-	-	-	-	
Barbering/hairdressing	224*	53	-	-	-	-	-	
Other personal arts	-	71*	-	-	-	-	-	
Other applied arts	-	71*	-	-	-	-	-	
Repair and renovation	-	71*	-	-	-	-	-	
Furniture/upholstery	-	71*	-	-	-	-	-	
Arts and sciences	221*	47*	-	-	-	-	-	
Business and commerce	13,811	62	10	19	9	21	21	
Management and administration	3,994	67	11	15	7	16	16	
Financial management	973	65	11*	14*	-	15*	22	
Accounting	764	64	16*	16*	-	16*	18	
Assessment/appraisal	-	100	-	-	-	-	-	
Banking	-	58*	-	-	-	-	-	
Investment management	-	100	-	-	-	-	-	
Other financial management	-	-	-	-	-	-	-	
Industrial management	4,069	65	9	17	9	19	22	
Health-care facilities management	-	-	-	-	-	-	-	
Hotel/restaurant/personnel management	-	58*	-	-	-	-	-	
Other institutional management	-	100	-	-	-	-	-	
Management and administration-business and commerce	2,383	66	9	17	8*	18	22	
Merchandising and sales	583	66	-	20*	-	21*	24	
Secretarial science	6,197	59	10	21	10	24	20	
Bank teller	-	71*	-	-	-	-	-	
Business machine operations	1,825	52	10*	24	14	28	20	
Word processing	481	51	-	23*	-	27*	19	
Other business machine operations	1,334	52	-	25	14*	29	20	
Secretary-accounting, bookkeeping	1,028	61	12*	17	10*	19	20	
Secretary-general	1,885	63	9*	19	9*	21	19	
Secretary-legal	1,022	61	-	-	-	24	25	

Table B-1A Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Both sexes	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Legal secretary/law clerk	357	78	-	-	-	22*
Secretary-medical	148*	58*	-	-	-	-
Health records technology	-	100	-	-	-	-
Medical secretary	126*	-	-	-	-	-
Switchboard operator/receptionist	115*	57*	-	-	-	-
Other secretarial/clerical	118*	-	-	-	-	57*
Service industry technologies	2,686	61	9	18	11	20
Food preparation	1,949	64	7*	17	12	19
Baking	229*	75	-	-	-	-
Cooking	1,617	63	7*	17	13*	18
Food preparation-other	-	60*	-	-	-	-
Food serving	203*	44*	-	-	-	25
Engineering and applied sciences	18,786	68	5	22	4	23*
Chemical technologies	199*	53	-	23*	-	-
Chemical engineering technologies	150*	47	-	31*	-	34*
Chemistry	-	100	-	-	-	-
Industrial chemical technologies	-	65*	-	-	-	-
Chemical processing	-	-	-	-	-	-
Plastics and fiberglass	-	-	-	-	-	-
Electrical/electronic engineering technologies	2,691	70	4	21	4	25
Avionics technologies	-	86	-	20	4*	25
Electrical/electric engineering technologies	2,292	72	4*	18	19	25
Electrical	1,218	75	-	23	24	23
Electronics	991	67	-	34*	36*	22*
Electro-mechanical technologies	189*	54	-	36*	38*	22*
Electric motors	157*	51	-	-	-	-
Marine electronics technologies	-	-	63*	-	-	-
Telecommunications technologies	-	78	-	-	-	-
Radio and television	-	-	-	-	-	-
Other telecommunications electronics	-	100	-	-	-	-
Engineering technologies	11,999	69	5	22	4	25
Engineering-general	1,147	67	10*	19	5*	25
Civil techniques	150*	60	-	-	-	-
Bridge construction	-	100	-	-	-	-
Piping technologies	-	-	-	-	-	-
Road construction	-	-	-	-	-	-
Drafting	589	62	12*	19	17*	20
Engineering design or drafting	235*	69	-	-	-	23
Mechanical drafting	122*	57	-	-	-	24*
Instrumentation	-	80	-	-	-	-
Repair and services	-	80	-	-	-	-
Surveying	-	69	-	-	-	-
Other engineering technologies	211*	77	-	-	-	30
Engineering-mechanical	5,035	74	5*	18	3*	24
Agricultural equipment mechanics	118*	77	-	-	-	18*
Aircraft mechanics	129*	94	-	-	-	-
Auto technology	1,399	73	5*	18	3*	18
Auto body repair	245*	71	-	20	-	21
Auto mechanics	1,154	74	5*	18	3*	18

Table B-1A Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Both sexes	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemploy- ment rate (%)	
Heavy equipment mechanics	1,624	72	-	20	-	21	25
Hydraulics	-	100	-	-	-	-	-
Marine mechanics	323	78	-	-	-	-	40*
Small engine mechanics	205*	59	-	34*	-	-	-
Other mechanical engineering technologies	1,166	79	-	14*	34*	14*	30
Aeronautical engineering and construction	4,104	63	6	26	5	27	24
Architectural design/drafting technology	-	95	-	-	-	-	-
Construction or building technology	2,595	62	6*	27	6*	28	23
Construction electrician	-	62	-	-	-	-	-
Drywall, plastering, lathing	-	100	-	-	-	-	-
Heat, insulation	-	-	58*	-	-	-	-
Interior finishing	-	-	83	-	-	-	-
Masonry-brick, stone, concrete	332*	45	-	-	-	-	-
Plumbing	232*	56	-	37*	37*	37*	20*
Woodworking and carpentry	1,570	66	-	22	8*	24	22
Other construction or building technologies	252	72	-	28*	-	28*	30*
Naval architecture/construction technologies	-	-	-	-	-	-	-
Welding technologies	1,441	66	-	-	-	-	-
Other architectural and construction technologies	-	-	-	-	-	-	-
Engineering-industrial	1,714	69	-	25	4*	26	25
Industrial design/operations technologies	164*	78	-	25	-	-	30*
Machinist	1,075	70	-	-	-	-	27
Manufacturing technologies	385	62	-	27	-	-	24
Aircraft	-	75*	-	-	-	-	25
Clothing/other fabric products	-	81*	-	-	-	-	-
Electrical/electronic equipment and related	-	42*	-	39*	41*	-	-
Metal	119*	67	-	-	-	-	-
Rubber, glass and plastics	-	100	-	-	-	-	-
Wood and paper products	-	78	-	-	-	-	-
Other manufacturing	-	59*	-	-	-	-	-
Materials sciences or management	-	100	-	-	-	-	-
Quality control	-	74	-	-	-	-	-
Mathematics and computer science	1,213	59	-	-	-	-	-
Computer science	-	59	-	-	-	-	-
Computer programming	1,198	59	-	-	-	-	-
Computer sciences-system design and analysis	208*	77	-	-	-	-	-
Computer technologies	248*	47*	-	-	-	-	-
Data processing	522	63	-	21*	-	-	-
Mathematics	129*	-	-	-	-	-	-
Transportation technologies	-	-	-	-	-	-	-
Motor transportation	684	55	-	38	-	39	31*
Commercial vehicle transportation	235*	50*	-	-	-	-	-
Marine transportation	235*	50*	-	-	-	-	-
Nautical science/navigation technologies	449	58	-	33*	33*	34*	35
Health sciences and related medical technologies	449	58	-	33*	33*	34*	35
Diagnostics and treatment medical technologies	5,388	59	-	27	8	8	24
Dental hygiene/assistant technologies	1,478	79	-	-	-	-	25
Emergency paramedical technologies	918	76	-	-	-	-	24*
Medical laboratory technologies	244*	93	-	-	-	-	-

Table B-1A Characteristics of 1990 trade/vocational graduates by field of study, June 1992

	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemploy- ment rate (%)	
Trade/vocational graduates - Both sexes							
Pharmacy technologies	193*	75	-	-	-	-	-
X-ray/radiologic/nuclear medicine technology	-	-	-	-	-	-	-
Other diagnostic and treatment medical technologies	-	76*	-	-	-	-	-
Medical equipment and prosthetics	-	-	-	-	-	-	-
Auditory prosthetics	-	100	-	-	-	-	-
Dental appliances	-	100	-	-	-	-	-
Other medical equipment technologies	3,275	54	34	6*	6*	23	-
Nursing	-	82	-	-	-	-	-
Dental nursing	-	69*	-	-	-	-	-
Diploma nursing	2,676	54	34	6*	6*	22	-
Nursing aide/ordery	-	201*	-	59	-	-	-
Nursing refresher	-	71	-	39*	-	-	-
Other specialized nursing	-	590	36*	44*	-	-	-
Other health related technologies	2,421	44	-	-	-	-	-
Health-care support technologies	248*	-	47*	-	-	-	-
Public/environmental health	-	-	-	-	-	-	-
Other health-care technologies	142*	82	-	-	-	-	-
Humanities and related	-	97	-	-	-	-	-
Journalism	-	-	-	-	-	-	-
Languages	-	-	-	-	-	-	-
Other language studies	-	-	-	-	-	-	-
Library science	-	-	-	-	-	-	-
Library/documentation sciences	1,962	63	9	22	7	23	21
Natural sciences and primary industries	-	59	-	-	-	-	-
Environmental and conservation technologies	-	-	-	-	-	-	-
Environmental control/protection technologies	-	63	-	-	-	-	-
Water science technologies	-	-	100	-	-	-	-
Wildlife and forest conservation technologies	-	66	12*	-	-	-	-
Natural sciences	682	80*	-	-	-	-	-
Agriculture	-	87	-	-	-	-	-
Agriculture business	-	86	-	-	-	-	-
Agriculture technologies/sciences/engineering	253	57	18*	15*	17*	20	15*
Animal sciences	-	-	100	-	-	-	-
Cattle technologies/beef and dairy	-	62	-	-	-	-	-
Equine studies/horse husbandry	-	-	-	-	-	-	-
Swine technologies	148*	56	-	-	-	-	20*
Other animal sciences	312	68	-	-	-	-	15*
Plant sciences	188*	75	-	-	-	-	22*
Crops and horticulture	118*	62	-	-	-	-	20*
Landscaping	-	-	28	-	-	-	30
Primary industries (excluding agriculture)	340	64	-	-	-	-	23
Fishing technologies	-	58*	-	-	-	-	100
Fishing	-	-	100	-	-	-	-
Forestry technologies	176*	73	47*	-	-	-	20*
Mining technologies	-	-	33*	-	-	-	40*
Drilling and extractive technologies	-	42*	-	-	-	-	44*
Petroleum resources technology	-	86	-	-	-	-	-
Resource processing technologies	850	60	9*	23	7*	21	25
Food processing technologies	-	65	-	-	-	-	16*

Table B-1A Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Both sexes		Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (\$'000)
	% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)		
Meat processing	535	65	12*	15*	8*	16*	21
Other food processing technologies	--	75*	--	--	--	--	--
Forest products processing	128*	36*	--	54	--	58	23*
Wood products processing	128*	36*	--	54	--	58	23*
Metal processing	146*	58	--	35*	--	36*	21*
Iron and steel	--	66*	--	--	--	--	--
Processing of other metals	--	55	--	35*	--	37*	20*
Petroleum refining technologies	--	100	--	--	--	--	--
Social sciences and services	4,092	60	19	14	6*	15	22
Educational and counselling services	1,078	69	--	--	14*	14*	18
Counselling services/technologies	--	--	--	--	--	--	--
Counsellor-addiction	--	--	--	--	--	--	--
Counsellor-handicapped	--	--	--	--	--	--	--
Education services	1,003	71	--	--	--	--	18
Adult education	--	100	--	--	--	--	--
Education-early childhood	479	71	--	--	--	--	18
Education-handicapped	--	95	--	--	--	--	--
Supervisory training for on-job instruction	--	100	--	--	--	--	--
Teacher training	--	--	--	--	--	--	--
Teachers aide/educational support	--	78*	--	--	--	--	--
Personal development	--	--	--	--	--	--	--
Occupational skills development	--	--	--	--	--	--	--
Orientation courses	255	73	--	--	--	--	25*
Protection and correction services	--	74	--	--	--	--	25*
Correctional technologies	--	--	--	--	--	--	--
Para-legal technologies	--	--	--	--	--	--	--
Police technologies/criminology	--	--	--	--	--	--	--
Protection technologies	116*	71*	--	--	--	--	--
Fire	--	93	--	--	--	--	--
Security	--	--	--	--	--	--	--
Recreation and sport	382	44*	--	--	--	--	18*
Recreation leadership/leisure services	--	--	--	--	--	--	--
Travel and tourism	253	47*	--	--	--	--	--
Guiding	--	--	--	--	--	--	--
Travel counsellor/agent	239*	50*	--	--	--	--	--
Social sciences	--	100	--	--	--	--	--
Geography	--	100	--	--	--	--	--
Psychology	--	100	--	--	--	--	--
Social services	2,279	57	22	14	--	--	23
Care of the disabled	2,279	62*	--	--	--	--	--
Child care services	2,279	62*	--	--	--	--	23*
Domestic science and related	426	80	--	--	--	--	21*
Geronimology	944	47	32	--	--	--	--
Social services/welfare technologies	191*	--	--	--	--	--	--
Youth services	155*	--	--	--	--	--	--
Other social services	--	100	--	--	--	--	--
Other	--	78	--	--	--	--	--
	--	82	--	--	--	--	--
	--	82	--	--	--	--	--

Table B-1B Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Total (all fields of study)	21,041	69	5	21	4	22	25
Arts	479	74	--	--	--	--	20
Commercial and promotional arts	--	--	--	--	--	--	--
Creative arts	--	--	--	--	--	--	--
Creative and design arts	--	--	--	--	--	--	--
Fashion arts	--	--	--	--	--	--	--
Interior decorating	--	100	--	--	--	--	--
Other creative and design arts	--	100	--	--	--	--	--
Fine arts	--	--	--	100	--	--	--
Handicrafts	--	--	100	--	--	--	--
Graphic and audio-visual arts	214*	66	--	--	--	--	20*
Photography	--	80	--	--	--	--	--
Printing and publishing	118*	47*	--	--	--	--	--
Other graphic and audio-visual arts	--	94	--	--	--	--	--
Mass communications	--	76	--	--	--	--	--
Cinematography/film production/animation	--	--	--	--	--	--	--
Radio and television broadcasting	--	100	--	--	--	--	--
Other mass communications studies	--	83	--	--	--	--	--
Personal arts	--	84	--	--	--	--	--
Barbering/hairdressing	--	92	--	--	--	--	--
Other personal arts	--	--	--	--	--	--	--
Other applied arts	--	100	--	--	--	--	--
Repair and renovation	--	100	--	--	--	--	--
Furniture/upholstery	--	100	--	--	--	--	--
Arts and sciences	--	--	--	--	--	--	--
Business and commerce	3,160	67	--	--	--	--	24
Management and administration	1,095	74	--	--	--	--	25*
Financial management	366	69	--	--	--	--	24*
Accounting	285	64	--	--	--	--	--
Assessment/appraisal	--	100	--	--	--	--	--
Investment management	--	--	--	--	--	--	--
Industrial management	--	100	--	--	--	--	--
Hotel/restaurant/resort management	1,941	70	--	--	--	--	23
Other institutional management	--	--	78*	--	--	--	--
Management and administration-business and commerce	--	100	--	--	--	--	26
Merchandising and sales	463	77	--	--	--	--	--
Secretarial science	254	79	--	--	--	--	25*
Business machine operations	422	48	--	--	--	--	--
Word processing	238*	39*	--	--	--	--	--
Other business machine operations	--	--	75*	--	--	--	--
Secretary/accounting, bookkeeping	192*	44*	--	--	--	--	24*
Secretary-general	118*	71	--	--	--	--	--
Secretary/legal	--	--	--	--	--	--	--
Legal secretary/law clerk	--	100	--	--	--	--	--
Science industry technologies	1,318	68	--	--	--	--	21
Food preparation	1,004	74	--	--	--	--	20
Baking	--	91	--	--	--	--	--

Table B-1B Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Cooking	839	72	--	17*	--	18*	20
Food preparation-other	--	71*	--	--	--	--	--
Food serving	--	--	--	--	--	--	--
Engineering and applied sciences	14,658	70	4	22	4	23	25
Chemical technologies	128*	56	--	--	--	--	24*
Chemical engineering technologies	--	57	--	--	--	--	--
Industrial chemical technologies	--	--	--	--	--	--	--
Chemical processing	--	--	--	--	--	--	--
Plastics and fiberglass	--	--	--	--	--	--	--
Electrical/electronic engineering technologies	2,362	72	3*	21	4*	22	25
Avionics technologies	--	80*	--	--	--	--	--
Electrical/electronic engineering technologies	2,046	73	3*	20	4*	21	25
Electrical	1,104	76	--	18	19	19	25
Electronics	872	68	--	24	--	25	23
Electro-mechanical technologies	178*	55	--	34*	--	36*	22*
Electric motors	151*	50	--	37*	--	39*	22*
Marine electronics technologies	--	63*	--	--	--	--	--
Telecommunications technologies	--	76	--	--	--	--	29*
Radio and television	--	--	100	--	--	--	--
Other telecommunications electronics	--	100	--	--	--	--	--
Engineering technologies	10,841	71	4	22	3	23	25
Engineering-general	893	70	--	18	19	19	25
Civil technologies	131*	54*	--	--	--	--	--
Bridge construction	--	100	--	--	--	--	--
Piping technologies	--	--	--	--	--	--	--
Read construction	--	--	--	--	--	--	--
Drafting	424	68	--	19*	--	20*	20
Engineering design or drafting	164*	72	--	--	--	--	22*
Mechanical drafting	--	69	--	--	--	--	--
Instrumentation	--	78	--	--	--	--	--
Repair and services	--	78*	--	--	--	--	--
Surveying	--	73	--	--	--	--	--
Other engineering technologies	167*	85	--	--	--	--	25*
Engineering-mechanical	4,921	75	4*	18	3*	18	24
Agricultural equipment mechanics	--	83	--	--	--	--	--
Aircraft mechanics	128*	94	5*	18	3*	19	18
Auto technology	1,309	74	5*	20*	--	--	--
Auto body repair	219*	74	--	--	--	--	--
Auto mechanics	1,090	74	5*	18	3*	19	18
Heavy equipment mechanics	1,607	72	--	20	21	25	25
Hydraulics	--	100	--	--	--	--	--
Marine mechanics	309	79	--	--	--	--	40*
Small engine mechanics	192*	62	--	--	33*	--	--
Other mechanical engineering technologies	1,131	79	--	--	14*	--	14*
Engineering-architectural and construction	3,623	64	5*	27	4*	28	25
Architectural design/drafting technology	--	93	--	--	--	--	--
Construction or building technologies	2,237	62	4*	28	5*	30	23
Construction electrician	--	--	--	--	--	--	--

100

Table B-1B Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Men	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Drywall, plastering, lathing	--	--	--	--	--	--
Heat, insulation	--	58*	--	--	--	--
Interior finishing	--	83	--	--	--	--
Masonry, brick, stone, concrete	326	46	--	38*	--	40
Plumbing	229*	55	--	37*	--	37*
Woodworking and carpentry	1,251	67	--	23	--	21
Other construction or building technologies	237*	70	--	30*	--	31*
Naval architecture/construction technologies	--	--	--	--	--	--
Welding technologies	1,333	68	--	25	--	25
Other architectural and construction technologies	--	--	--	--	--	--
Engineering-industrial	1,503	71	--	23	--	24
Industrial design/operations technologies	132*	81	--	--	--	25
Machinist	1,005	70	--	26	--	30*
Manufacturing technologies	290	69	--	22*	--	24
Aircraft	--	100	--	--	--	26
Clothing/other fabric products	--	100	--	--	--	--
Electrical/electronic equipment and related	--	58*	--	--	--	--
Metal	114*	66	--	--	--	--
Rubber, glass and plastics	--	100	--	--	--	--
Wood and paper products	--	86	--	--	--	--
Other manufacturing	--	--	--	--	--	--
Materials sciences or management	--	100	--	--	--	--
Quality control	--	68*	--	--	--	--
Mathematics and computer science	669	64	--	20*	--	23*
Computer science	659	65	--	19*	--	30
Computer programming	--	85	--	--	--	30
Computer sciences-system design and analysis	--	66*	--	--	--	31*
Computer technologies	340	64	--	--	--	--
Data processing	--	--	--	--	--	--
Mathematics	--	--	--	100	--	--
Transportation technologies	658	55	--	38	--	31*
Motor transportation	--	230*	--	--	--	--
Commercial vehicle transportation	--	--	--	--	--	--
Marine transportation	428	57	--	33*	--	32*
Nautical science/navigation technologies	428	57	--	33*	--	33*
Health sciences and related	515	82	--	--	--	--
Diagnostics and treatment medical technologies	250	92	--	--	--	--
Dental hygiene/assistant technologies	--	100	--	--	--	--
Emergency para-medical technologies	219*	91	--	--	--	--
Medical laboratory technologies	--	100	--	--	--	--
Pharmacy technologies	--	100	--	--	--	--
Other diagnostic and treatment medical technologies	--	100	--	--	--	--
Medical equipment and prosthetics	--	100	--	--	--	--
Auditory prosthetics	--	--	--	--	--	--
Other medical equipment technologies	--	100	--	--	--	--
Nursing	75	--	--	--	--	27*
Diploma nursing	--	100	--	--	--	--
Nursing aide/orderly	--	72	--	--	--	25*

Table B-1B Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Nursing refresher	--	--	--	--	--	--	--
Other specialized nursing	--	100	--	--	--	--	--
Other health related technologies	--	--	--	--	--	--	--
Public/environmental health	--	--	100	--	--	--	--
Other health-care technologies	--	--	100	--	--	--	--
Humanities and related	--	--	100	--	--	--	--
Journalism	--	--	100	--	--	--	--
Natural sciences and primary industries	1,325	65	5*	24	5*	26	23
Environmental and conservation technologies	--	52*	--	--	--	--	--
Environmental control/protection technology	--	--	--	--	--	--	--
Water science technologies	--	58*	--	--	--	--	--
Wildlife and forest conservation technologies	--	--	--	--	--	--	--
Natural sciences	256	72	--	100	--	18*	19*
Agriculture	--	100	--	--	--	--	24
Agriculture business	--	92	--	--	--	--	--
Agriculture technologies/sciences/engineering	--	82	--	--	--	--	--
Animal sciences	--	73	--	--	--	--	--
Equine studies/horse husbandry	--	100	--	--	--	--	--
Swine technologies	--	100	--	--	--	--	--
Other animal sciences	--	68*	--	--	--	--	--
Plant sciences	126*	70	--	--	--	--	--
Crops and horticulture	--	81	--	--	--	--	--
Landscapeing	--	54*	--	--	--	--	--
Primary industries (excluding agriculture)	310	62	--	30	32	32	23
Fishing technologies	--	55*	--	--	--	--	--
Fishing	--	--	--	100	100	100	--
Forestry technologies	160*	72	--	24*	24*	25*	20*
Mining technologies	--	47*	--	33*	33*	40*	--
Drilling and extractive technologies	--	42*	--	37*	37*	44*	--
Petroleum resources technology	--	--	--	--	--	--	--
Resource processing technologies	692	65	--	23	23	25	23
Food processing technologies	443	69	--	16*	16*	17*	22
Meat processing	440	68	--	16*	16*	17*	22
Other food processing technologies	--	100	--	--	--	--	--
Forest products processing	--	41*	--	--	--	--	--
Wood products processing	105*	105*	41*	--	--	55	--
Metal processing	--	117*	--	--	--	53	--
Iron and steel	--	--	66	--	--	56	--
Processing of other metals	--	66*	--	30*	30*	31*	23*
Petroleum refining technologies	--	67	--	--	--	--	--
Social sciences and services	100	100	--	--	--	--	--
Educational and counselling services	643	58	--	23*	23*	26*	--
Counselling services/technologies	--	68*	--	--	--	--	--
Counselor-addiction	--	--	--	--	--	--	--
Counselor-handicapped	--	--	--	--	--	--	--
Educational services	--	100	--	--	--	--	--
Adult education	--	100	--	--	--	--	--
Education-early childhood	--	--	--	--	--	--	--

Table B-1B Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Men	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Supervisory training for on-job instruction	-	100	-	-	-	-
Personal development	-	100	-	-	-	-
Orientation courses	-	100	-	-	-	-
Protection and correction services	-	69	-	-	-	-
Correctional technologies	148*	65*	-	-	-	-
Police technologies/criminology	-	100	-	-	-	-
Protection technologies	-	67*	-	-	-	-
Fire	-	93	-	-	-	-
Security	-	-	-	-	-	-
Recreation and sport	-	-	-	-	-	-
Recreation leadership/leisure services	-	-	-	-	-	-
Travel and tourism	-	-	-	-	-	-
Travel counselor/agent	-	-	-	-	-	-
Social sciences	-	-	-	-	-	-
Geography	-	-	-	-	-	-
Social services	279	58*	-	-	-	-
Care of the disabled	-	86	-	-	-	-
Child care services	-	-	-	-	-	-
Domestic science and related	-	-	-	-	-	-
Geroniology	-	-	-	-	-	-
Social services/welfare technologies	-	100	-	-	-	-
Other social services	-	93	-	-	-	-
Other n.e.c.	-	90	-	-	-	-

Table B-1C Characteristics of 1990 trade/vocational graduates by field of study, June 1992

	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Trade/vocational graduates - Women							
Total (all fields of study)	23,212	59	17	16	9	17	21
Arts	1,287	53	18*	19	10*	21	15
Commercial and promotional arts	--	--	--	--	--	--	--
Commercial arts	--	--	--	--	--	--	--
Creative and design arts	305	37*	--	--	--	--	--
Fashion arts	165*	--	--	--	--	--	--
Interior decorating	--	--	--	--	--	--	--
Other creative and design arts	--	--	--	--	--	--	--
Fine arts	--	--	--	--	--	--	--
Handicrafts	--	--	--	--	--	--	--
Sculpture and painting	--	--	--	--	--	--	--
Other fine arts	--	--	--	--	--	--	--
Graphic and audio-visual arts	134*	--	--	--	--	--	--
Photography	--	--	--	--	--	--	--
Printing and publishing	--	--	--	--	--	--	--
Other graphic and audio-visual arts	--	--	--	--	--	--	--
Mass communications	--	--	--	--	--	--	--
Cinematography/film production/animation	--	--	--	--	--	--	--
Radio and television broadcasting	--	--	--	--	--	--	--
Other mass communications studies	--	--	--	--	--	--	--
Personal arts	653	64	--	20*	21*	13	14*
Barbering/hairdressing	445	69	--	--	--	--	10*
Other personal arts	208*	52	--	--	--	--	--
Other applied arts	--	--	--	--	--	--	--
Repair and renovation	--	--	--	--	--	--	--
Furniture/upholstery	--	--	--	--	--	--	--
Arts and sciences	137*	--	--	--	--	--	--
Business and commerce	10,618	60	11	18	10	20	20
Management and administration	2,879	65	12	15	8	16	22
Financial management	597	64	19*	--	--	--	18
Accounting	459	65	17*	--	--	--	17
Banking	--	58*	--	--	--	--	--
Other financial management	--	--	--	--	--	--	--
Industrial management	2,118	60	12	17	11	19	21
Health-care facilities management	--	--	--	--	--	--	--
Hotel/restaurant/resort management	--	--	--	--	--	--	--
Management and administration-business and commerce	1,910	63	10*	18	8*	20	21
Merchandising and sales	329	55	--	--	--	--	20*
Secretarial science	5,772	59	11	20	9	22	19
Bank teller	--	71*	--	--	--	--	--
Business machine operations	1,587	54	11*	22	13*	25	19
Word processing	445	54	--	19	19	22	19
Other business machine operations	1,142	54	--	--	23	27	20
Secretary/accounting, bookkeeping	911	60	13*	17	10*	19	18
Secretary-general	1,849	64	9*	18	9*	20	19
Secretary/legal	989	61	--	24	--	25	20
Legal secretary/law clerk	341	--	--	--	--	--	--

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Table B-1C Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Other health related technologies	546	34*	40*	--	--	--
Health-care support technologies	242*	44*	--	--	--	--
Public/environmental health	207*	--	49*	--	--	--
Other health-care technologies	--	--	--	--	--	--
Humanities and related	--	67*	--	--	--	--
Journalism	--	87	--	--	--	--
Languages	--	--	--	--	--	--
Other language studies	--	--	--	--	--	--
Library science	--	--	--	--	--	--
Library/documentation sciences	633	58	15*	16	10*	18
Natural sciences and primary industries	--	76*	--	--	--	--
Environmental and conservation technologies	--	76*	--	--	--	--
Water sciences technologies	--	62	15*	14*	9*	15*
Natural sciences	421	--	--	--	--	--
Agriculture	--	--	--	--	--	--
Agriculture business	--	79*	--	--	--	--
Agriculture technologies/sciences/engineering	--	100	--	--	--	--
Animal sciences	200*	54	--	--	--	--
Cattle technologies/beef and dairy	--	--	--	--	--	--
Equine studies/horse husbandry	--	63	--	--	100	--
Swine technologies	--	--	--	--	--	--
Other animal sciences	--	51	--	--	--	--
Plant sciences	187*	68	--	--	--	--
Crops and horticulture	115*	71	--	--	--	--
Landscaping	--	68	--	--	--	--
Primary industries (excluding agriculture)	--	91	--	--	--	--
Fishing technologies	--	100	--	--	--	--
Forestry technologies	--	81*	--	--	--	--
Petroleum resources technology	--	81*	--	--	--	--
Resource processing technologies	156*	39	--	--	28*	15*
Food processing technologies	--	49*	--	--	--	15*
Meat processing	--	47*	--	--	--	--
Other food processing technologies	--	--	--	--	--	--
Forest products processing	--	--	--	--	80*	--
Wood products processing	--	--	--	--	80*	--
Metal processing	--	--	--	--	--	--
Processing of other metals	--	--	--	--	--	--
Social sciences and services	3,434	61	20	13	7*	20
Educational and counselling services	965	69	--	--	--	18
Counselling services technologies	--	--	--	--	--	--
Counsellor-addiction	--	--	--	--	100	--
Counsellor-handicapped	--	--	--	--	100	--
Educational services	945	70	--	--	--	18
Adult education	--	100	--	--	--	--
Education-early childhood	465	70	--	--	--	18*
Education-handicapped	--	35	--	--	--	--
Teacher training	--	--	--	--	--	--

Table B-1C Characteristics of 1990 trade/vocational graduates by field of study, June 1992

Trade/vocational graduates - Women	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Teachers aide/educational support	-	78*	-	-	-	-	-
Personal development	-	-	-	-	-	-	-
Occupational skills development	-	-	-	-	-	-	-
Orientation courses	-	100	77*	-	-	-	-
Protection and correction services	-	-	-	-	-	-	-
Correctional technologies	-	87	-	-	-	-	-
Para-Legal technologies	-	-	-	-	-	-	-
Police technologies/criminology	-	-	-	-	-	-	-
Protection technologies	-	100	-	-	-	-	-
Security	-	100	-	-	-	-	-
Recreation and sport	298	50*	-	-	-	-	-
Recreation leadership/leisure services	-	-	-	-	-	-	-
Travel and tourism	222*	54*	-	-	-	-	-
Guiding	-	-	-	-	-	-	-
Travel counsellor/agent	208*	58*	-	-	-	-	-
Social sciences	-	100	-	-	-	-	-
Psychology	-	100	-	-	-	-	-
Social services	1,984	56	22	15	16	22	-
Care of the disabled	204*	57*	-	-	-	-	-
Child care services	366	84	-	-	-	-	-
Domestic science and related	852	46	32	-	-	-	-
Gerontology	159*	-	-	-	-	-	-
Social services/welfare technologies	150*	-	-	-	-	-	-
Youth services	-	100	-	-	-	-	-
Other social services	193*	74	-	-	100	-	-
Other n.s.c.	-	-	-	-	100	100	-

Table B-1D Characteristics of 1990 career/technical graduates by field of study, June 1992

	Number of graduates	Labour force status - June 1992						Median annual earnings of full-time workers June 1992 (1992 \$/000)
		% working full time		% working part time		% unemployed	% not in the labour force	
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)		
Career/technical graduates - Both Sexes								
Total (all fields of study)	57,101	76	11	9	4	10	26	
Arts	4,892	67	14	14	6	15	21	
Commercial and promotional arts	578	76	--	--	--	--	25	
Advertising	357	79	--	--	--	--	--	
Commercial arts	145*	62*	--	--	--	--	--	
Other commercial and promotional arts	--	87	--	--	--	--	--	
Creative and design arts	961	59	14*	19*	20*	21		
Fashion arts	464	55	--	24*	27*	21*		
Interior decorating	428	64	--	--	--	20*		
Jewellery design	--	--	--	--	--	--	--	
Fine arts	612	39	33	19*	--	21*	16*	
Performing arts/theatre arts	308*	32*	41*	--	--	--	--	
Dance	--	100	--	--	--	--	--	
Drama	--	--	--	--	--	--	--	
Music	211*	--	--	--	--	--	--	
Handicrafts	--	--	--	--	--	--	--	
Sculpture and painting	--	70*	--	--	--	--	--	
Other fine arts	176	--	--	--	--	--	--	
Graphic and audio-visual arts	1,470	65	15*	14*	15*	20		
Photography	255*	68	--	--	--	--	--	
Printing and publishing	140*	93	--	--	--	--	--	
Recorded music production	--	--	--	--	--	--	--	
Other graphic and audio-visual arts	1,034	60	16*	16*	18*	19		
Mass communications	1,033	81	--	--	--	--	--	
Cinematography/film production/animation	--	80	--	--	--	--	--	
Radio and television broadcasting	452	82	--	--	--	--	20	
Other mass communications studies	458	80	--	--	--	--	20	
Personal arts	--	92	--	--	--	--	--	
Barbering/hairdressing	--	100	--	--	--	--	--	
Other personal arts	--	92	--	--	--	--	--	
Other applied arts	--	97	--	--	--	--	--	
Repair and renovation	--	100	--	--	--	--	--	
Musical instruments	--	100	--	--	--	--	--	
Other applied arts n.e.c.	--	95	--	--	--	--	--	
Fine and applied arts not reported	--	83*	--	--	--	--	--	
Arts and sciences	925	44	29	20*	--	22*	20	
Business and commerce	15,159	79	8	10	4	10	23	
Management and administration	9,537	79	8	10	3*	13	23	
Financial management	3,353	75	9*	13	13	13	21	
Accounting	1,365	80	--	14*	14*	14*	23	
Assessment/appraisal	--	94	--	--	--	--	--	
Banking	--	--	--	--	--	--	--	
Investment management	--	71*	--	--	--	--	--	
Other financial management	1,812	71	--	--	--	--	12*	
Industrial management	3,377	78	9	9	4*	9	24	
Health-care facilities management	--	67*	--	--	--	--	--	
Hotel/restaurant/resort management	517	82	--	--	--	--	--	

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Table B-1D Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Both Sexes	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Other institutional management	--	91	--	--	--	--	--
Management and administration-business and commerce	5,089	80	7	9	4*	9	25
Merchandising and sales	1,965	75	11	9*	6*	9*	24
Secretarial sciences	2,753	79	7*	8	5*	9	22
Business machine operations	--	76	--	--	--	--	--
Word processing	--	85	--	--	--	--	--
Other business machine operations	--	--	--	--	--	--	--
Secretary-general	1,795	81	--	--	--	--	--
Secretary/legal	488	83	--	--	--	--	--
Court reporting	--	100	--	--	--	--	--
Legal secretary/law clerk	485	82	--	--	--	--	--
Secretary-medical	363	73	--	--	--	--	--
Health records technology	195*	75	--	--	--	--	--
Medical secretary	--	72	--	--	--	--	--
Other secretarial/clerical	--	--	--	--	--	--	--
Service industry technologies	500	79	--	--	--	--	--
Food preparation	--	52*	--	--	--	--	--
Cooking	--	46*	--	--	--	--	--
Food preparation-other	--	--	--	--	--	--	--
Food serving	--	--	--	--	--	--	--
Engineering and applied sciences	12,147	64*	--	--	--	--	--
Chemical technologies	665	80	4	11	4	12	28
Biochemical technologies	--	79	--	10*	10*	10*	28
Chemical engineering technologies	--	60*	--	--	--	--	--
Chemistry	215*	76	--	--	--	--	27
Industrial chemical technologies	--	84	--	--	--	--	--
Chemical processing	--	86	--	--	--	--	--
Plastics and fiberglass	--	100	--	--	--	--	--
Textiles	--	84	--	--	--	--	--
Metalurgical/chemical technologies	--	100	--	--	--	--	--
Electrical/electronic engineering technologies	3,098	82	--	--	--	--	--
Avionics/technologies	--	84	--	--	--	--	--
Electrical/electronic engineering technologies	2,828	83	--	--	--	--	--
Electronics	1,476	83	10	10	5*	11	28
Electronics	1,264	82	10*	10*	11*	11*	29
Other electrical/electronic technologies	--	100	--	--	--	--	27
Electro-mechanical technologies	--	--	--	--	--	--	--
Electric motors	--	--	--	--	--	--	--
Mainframe electronics technologies	--	--	--	--	--	--	--
Telecommunications technologies	--	100	--	--	--	--	--
Radio and television	170*	84	--	--	--	--	--
Other telecommunications electronics	--	91	--	--	--	--	--
Engineering technologies	5,287	78	4	14	4	14	28
Engineering-general	1,895	80	3*	12	4*	13	30
Civil technologies	637	80	--	10*	--	11*	30
Bridge construction	--	100	--	--	--	--	--
Drafting	--	76	--	--	--	--	27

Table B-1D Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Both Sexes	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time		% working part time	% unemployed	% not in the labour force	
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Cartography	--	62	--	--	--	--	--
Engineering design or drafting	--	87	--	--	--	--	24*
Mechanical drafting	--	90	--	--	--	--	--
Instrumentation	515	81	--	--	--	--	33
Physics	--	86	--	--	--	--	--
Surveying	--	78	--	--	--	--	--
Other engineering technologies	457	82	--	--	--	--	--
Engineering/mechanical	1,563	77	--	--	--	--	27
Agricultural equipment mechanics	--	100	--	--	--	--	29
Aircraft mechanics	161*	84	--	--	--	--	--
Auto technology	157*	65	--	--	--	--	30
Auto mechanics	149*	65	--	--	--	--	24*
Heavy equipment mechanics	--	59	--	--	--	--	24*
Hydraulics	--	74	--	--	--	--	--
Marine mechanics	--	--	--	--	--	--	--
Other mechanical engineering technologies	1,020	79	--	--	--	--	30
Engineering/architectural and construction	1,335	78	--	--	--	--	25
Architectural design/drafting technology	870	77	--	--	--	--	23
Construction or building technologies	395	78	--	--	--	--	27
Heat, insulation	--	75*	--	--	--	--	--
Plumbing	--	57*	--	--	--	--	--
Woodworking and carpentry	--	86	--	--	--	--	30*
Other construction or building technologies	281*	75	--	--	--	--	28
Naval architecture/construction technologies	--	88	--	--	--	--	--
Welding technologies	--	81	--	--	--	--	--
Other architectural and construction technologies	--	100	--	--	--	--	--
Engineering-industrial	504	77	--	--	--	--	--
Industrial design/operations technologies	141*	73	--	--	--	--	--
Machinist	--	--	--	--	--	--	--
Manufacturing technologies	172*	78	--	--	--	--	26*
Aircraft	--	82	--	--	--	--	--
Clothing/other fabric products	--	--	--	--	--	--	--
Other manufacturing	--	81	--	--	--	--	--
Materials sciences or management	--	78	--	--	--	--	--
Quality control	--	100	--	--	--	--	--
Other industrial engineering technologies	--	90	--	--	--	--	--
Mathematics and computer science	2,917	83	--	--	--	--	8*
Computer science	2,917	83	--	--	--	--	8*
Computer programming	1,193	84	--	--	--	--	28
Computer sciences-system design and analysis	982	80	--	--	--	--	28
Computer technologies	495	81	--	--	--	--	30*
Data processing	150*	84	--	--	--	--	30*
Air transportation technologies	190*	84	--	--	--	--	25*
Air transport ground support	--	84	--	--	--	--	22*
Aviation and flight technologies	--	100	--	--	--	--	--
Marine transportation	--	83	--	--	--	--	22*

Table B-1D Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Both Sexes	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Nautical science/navigation technologies	--	--	--	--	--	--
Other transportation technologies	10,876	75	21	3*	3*	32
Health sciences and related	2,987	78	19	2*	2*	32
Diagnostics and treatment medical technologies	--	100	--	--	--	--
Chiropractic technologies	873	82	--	--	--	25
Dental hygiene/assistant technologies	195*	65*	--	--	--	--
Emergency para-medical technologies	848	66	32*	--	--	33
Medical laboratory technologies	--	100	--	--	--	--
Pharmacy technologies	--	--	--	--	--	--
Physiotherapy	200*	81	--	--	--	35*
X-ray/radiology/nuclear medicine technology	448	81	--	--	--	35*
Other diagnostic and treatment medical technologies	373	95	--	--	--	--
Medical equipment and prosthetics	283*	--	--	--	--	--
Auditory prosthetics	--	100	--	--	--	--
Dental appliances	--	85	--	--	--	--
Optical prosthetics/lenses	--	100	--	--	--	--
Orthopaedic prosthetics	--	--	--	--	--	--
Nursing	6,820	75	22	2*	3*	32
Diploma nursing	3,994	73	24	--	--	30
Nursing aide/ orderly	391	64	--	--	--	--
Nursing refresher	--	--	--	--	--	--
Psychiatric or mental health nursing	263*	78	--	--	--	36*
Public health nursing	--	82	--	--	--	--
Other specialized nursing	148*	70*	--	--	--	--
Other health related technologies	833	60	--	--	--	28*
Biological sciences/technologies	158*	82	--	--	--	--
Dietetics/dietary technologies	--	48*	--	--	--	--
Health-care support technologies	--	--	--	--	--	--
Public/environmental health	--	100	--	--	--	--
Other health-care technologies	337	57*	--	--	--	--
Humanities and related	884	64	15*	16*	17*	25
History	--	--	100	--	--	--
Journalism	280*	75	--	--	--	21*
Languages	--	--	--	--	--	--
English literature, grammar, composition	--	--	--	--	--	--
Library science	427	66	--	--	--	27*
Archival sciences	--	--	--	--	--	--
Library/documentation sciences	407	67	--	--	--	--
Religion/theology	--	--	--	--	--	28*
Natural sciences and primary industries	2,420	82	4	12	12	24
Environmental and conservation technologies	685	83	--	11*	11*	27
Environmental control/protection technology	194*	87	--	--	--	25
Land resources technologies	--	81	--	--	--	--
Water science technologies	160*	82	--	--	--	30
Wildlife and forest conservation technologies	128*	75	--	--	--	16*
Other environmental and conservation technologies	167*	87	--	--	--	30
Natural sciences	891	81	5*	5*	11	11

Table B-1D Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Both Sexes	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$ 000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Agriculture	-	100	-	-	-	-
Agriculture business	-	95	-	-	-	20*
Agriculture technologies/sciences/engineering	171*	85	-	-	-	20*
Animal sciences	420	76	-	12*	-	20
Cattle technologies (beef and dairy)	-	-	-	-	-	-
Equine studies/horse husbandry	-	68	-	-	-	-
Veterinary technologies/animal health	248*	79	-	-	-	20
Other animal sciences	-	74	-	-	-	22*
Biology	-	67*	-	-	-	-
Plant sciences	216*	85	-	-	-	-
Crops and horticulture	-	84	-	-	-	23*
Irrigation/water management	-	100	-	-	-	-
Landscaping	-	88	-	-	-	-
Other plant sciences	-	-	-	-	-	25*
Primary industries (excluding agriculture)	637	79	-	-	-	-
Fishing technologies	-	100	-	-	-	-
Forestry technologies	386	85	-	12*	-	26
Mining technologies	203*	70	-	18*	-	33
Drilling and extractive technologies	-	-	-	-	-	-
Geology and prospecting	-	-	-	-	-	30*
Petroleum resources technology	-	-	70	-	-	-
Resource processing technologies	207*	85	-	-	-	28
Food processing technologies	-	-	-	-	-	27
Dairy products processing	-	83	-	-	-	-
Meat products processing	-	100	-	-	-	-
Other food processing technologies	-	67	-	-	-	-
Forest products processing	-	77	-	-	-	-
Pulp and paper technology	-	100	-	-	-	-
Wood products processing	-	100	-	-	-	-
Metal processing	-	-	76*	-	-	-
Processing of other metals	-	-	76*	-	-	-
Petroleum refining technologies	-	-	100	-	-	-
Social sciences and services	9,580	75	11	-	5 9 8*	25 24 10 8*
Educational and counselling services	2,801	71	15	-	6*	-
Counselling services: technologies	228*	60*	-	-	-	-
Counsellor-addiction	-	-	-	-	-	-
Counsellor-education/career/vocational	-	-	-	-	-	-
Counsellor-handicapped	147*	67*	-	-	-	-
Educational services	2,574	72	14	7	7	23
Adult education	-	-	100	-	-	-
Education-early childhood	1,614	74	9*	-	10*	22
Education-handicapped	-	-	72*	-	-	-
Industrial arts education	-	-	100	-	-	-
Supervision/training for on-job instruction	-	-	100	-	-	-
Teacher training	-	70	24*	-	-	25
Teachers aide/educational support	-	-	-	-	-	-
Personal development	-	-	-	-	-	-

Table B-1D Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Both Sexes	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Communications skills development	--	--	100	--	--	--
Correctional services	2,602	88	5*	--	5*	--
Correctional technologies	427	91	--	--	--	30*
Para-legal technologies	--	100	--	--	--	--
Police technologies/criminology	1,479	83	--	--	--	30
Protection technologies	601	94	--	--	--	28
Fire	--	100	--	--	--	--
Safety	--	100	--	--	--	--
Security	564	93	--	--	--	28
Recreation and sport	1,604	78	--	11*	12*	22
Physical education/instruction	--	74*	--	--	--	--
Recreation leadership/leisure services	523	73	--	--	--	24*
Travel and tourism	939	81	--	--	--	20
Parks/forests/wildlife recreation	--	79	--	--	--	--
Travel counsellor/agent	821	81	--	--	--	20
Other recreation and sport	--	100	--	--	--	--
Social sciences	--	--	--	--	--	--
Economics	--	--	100	--	--	--
Psychology	--	--	--	--	--	--
Other social sciences	--	--	--	--	--	--
Social services	2,481	66	12	13	14	24
Care of the disabled	224	53*	--	--	--	--
Child care services	800	70	--	14*	15*	22
Community planning/urban design	--	--	--	--	--	--
Geomatics	328	59	--	--	--	--
Social services/welfare technologies	652	69	--	--	--	26
Youth services	--	80*	--	--	--	--
Other social services	231	66	--	--	--	--
Other	--	--	--	--	--	--

Table B-1E Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Total (all fields of study)	23,456	81	6	10	3	11	28
Arts	1,839	70	11*	15	15	20	20
Commercial and promotional arts	207	70	7	7	7	--	--
Advertising	112	81	7	7	7	--	--
Commercial arts	57	--	--	--	--	--	--
Other commercial and promotional arts	37	--	--	--	--	--	--
Creative and design arts	70	--	--	--	--	--	--
Fashion arts	30	--	--	--	--	--	--
Interior decorating	19	--	--	--	--	--	--
Jewellery design	100	--	--	--	--	--	--
Fine arts	290	20	41*	33*	--	--	--
Performing arts/theatre arts	186	--	--	--	--	--	--
Drama	30	--	--	--	--	--	--
Music	156	--	--	--	--	--	--
Sculpture and painting	30	--	--	--	--	--	--
Other fine arts	66	--	--	--	--	--	--
Graphic and audio-visual arts	617	77	78	--	--	20	--
Photography	147	78	78	--	--	--	--
Printing and publishing	83	88	100	--	--	--	--
Recorded music production	21	100	--	--	--	--	--
Other graphic and audio-visual arts	367	73	73	--	--	16*	--
Mass communications	611	78	78	--	--	23	--
Cinematography/film production/animation	82	75*	75*	--	--	--	--
Radio and television broadcasting	288	76	76	--	--	20*	--
Other mass communications studies	231	80	100	--	--	25*	--
Personal arts	2	100	100	--	--	--	--
Other personal arts	2	100	100	--	--	--	--
Other applied arts	8	100	100	--	--	--	--
Other applied arts n.e.c.	8	100	100	--	--	--	--
Fine and applied arts not reported	31	100	100	--	--	--	--
Arts and sciences	320	56	56	--	--	--	--
Business and commerce	4,986	81	7	10	10	25	--
Management and administration	3,649	82	6*	10	10	25	--
Financial management	1,119	80	1	1	1	23	--
Accounting	522	77	1	1	1	24	--
Assessment/appraisal	33	92	--	--	--	--	--
Investment management	41	--	--	--	--	--	--
Other financial management	507	82	--	--	--	22*	--
Industrial management	1,692	80	8*	9*	9*	25	--
Hotel/restaurant/resort management	209	86	--	--	--	--	--
Other institutional management	61	100	--	--	--	--	--
Management and administration-business and commerce	2,046	82	--	--	--	27	--
Merchandising and sales	927	74	12*	--	--	25	--
Secretarial science	79	78	--	--	--	--	--
Business machine operations	21	--	--	--	--	--	--
Word processing	21	--	--	--	--	--	--
Secretary-general	22	--	--	--	--	--	--
Secretary/legal	26	--	--	--	--	--	--
	100	--	--	--	--	--	--

Table B-1E Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Legal secretary/law clerk	26	100	--	--	--	--	--
Secretary-medical	5	100	--	--	--	--	--
Health records technology	5	100	--	--	--	--	--
Service industry technologies	183	89	--	--	--	--	25
Food preparation	15	--	--	--	--	--	--
Cooking	10	75*	--	--	--	--	--
Food preparation-other	5	--	--	--	--	--	--
Food serving	26	80*	--	--	--	--	100
Engineering and applied sciences	9,878	81	--	--	--	--	--
Chemical technologies	364	85	--	--	--	--	--
Biochemical technologies	21	--	--	--	--	--	30
Chemical engineering technologies	84	92	--	--	--	--	--
Chemistry	77	85	--	--	--	--	--
Industrial chemical technologies	71	93	--	--	--	--	--
Chemical processing	6	100	--	--	--	--	--
Plastics and fiberglass	65	92	--	--	--	--	--
Metalurgical chemical technologies	30	--	--	--	--	--	--
Electrical/electronic engineering technologies	2,820	82	--	--	--	--	4*
Aeronautics technologies	55	--	--	--	--	--	12
Electrical/electronic engineering technologies	2,577	83	--	--	--	--	12
Electrical	1,352	84	--	--	--	--	11*
Electronics	1,144	82	--	--	--	--	11*
Other electrical/electronic technologies	3	100	--	--	--	--	11*
Electro-mechanical technologies	26	--	--	--	--	--	--
Electric motors	26	--	--	--	--	--	--
Marine electronics technologies	9	100	--	--	--	--	--
Telecommunications technologies	154	85	--	--	--	--	--
Radio and television	92	90	--	--	--	--	--
Other telecommunications electronics	53	--	--	--	--	--	--
Engineering technologies	4,591	79	3	14	3	14	28
Engineering-general	1,630	81	--	--	12	4*	30
Civil technologies	592	79	--	10*	--	11*	30
Bridge construction	9	100	--	--	--	--	30
Drafting	133	75	--	--	--	--	--
Cartography	50	56*	--	--	--	--	28*
Engineering design or drafting	34	81	--	--	--	--	--
Mechanical drafting	48	90	--	--	--	--	--
Instrumentation	462	82	--	14*	--	14*	32
Physics	36	86	--	--	--	--	--
Surveying	68	78	--	--	--	--	--
Other engineering technologies	338	86	--	10*	--	11*	29
Engineering/mechanical	1,493	77	5*	--	16	16	29
Agricultural equipment mechanics	34	100	--	--	--	--	--
Aircraft mechanics	152	--	--	--	--	--	--
Auto technology	83	--	--	--	--	--	30*
Auto mechanics	154	64	--	--	--	--	24*
Heavy equipment mechanics	145	64	--	--	--	--	24*
Hydraulics	70	59	--	--	--	--	--
	71	72	--	--	--	--	--

Table B-1E Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Men	Number of graduates	Labour force status June 1992						Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)		
Marine mechanics	35	--	--	--	--	--	--	--
Other mechanical engineering technologies	979	79	--	--	14	14	30	
Engineering-architectural and construction	1,050	80	--	--	14	15	25	
Architectural design/drafting technology	630	80	--	--	14*	14*	23	
Construction or building technologies	362	78	--	--	15*	16*	28	
Heat, insulation	6	75*	--	--	--	--	--	
Plumbing	11	57*	--	--	--	--	--	
Woodworking and carpentry	72	87	--	--	--	--	--	
Other construction or building technologies	254	72	--	--	--	--	32*	
Naval architecture/construction technologies	17	80	--	--	--	--	28	
Welding technologies	36	81	--	--	--	--	--	
Other architectural and construction technologies	5	100	--	--	--	--	--	
Engineering-industrial	418	82	--	--	--	--	30	
Industrial design/operations technologies	120	78	--	--	--	--	27*	
Machinist	29	--	--	--	--	--	--	
Manufacturing technologies	133	89	--	--	--	--	26*	
Aircraft	46	89	--	--	--	--	--	
Other manufacturing	58	83	--	--	--	--	--	
Materials sciences or management	34	86	--	--	--	--	--	
Quality control	20	100	--	--	--	--	--	
Other industrial engineering technologies	46	89	--	--	--	--	--	
Mathematics and computer science	1,953	84	--	--	9*	9*	30	
Computer science	1,953	84	--	--	9*	9*	30	
Computer programming	805	83	--	--	--	--	28	
Computer sciences-system design and analysis	614	83	--	--	--	--	33	
Computer technologies	417	84	--	--	--	--	28	
Data processing	70	100	--	--	--	--	--	
Transportation technologies	150	89	--	--	--	--	--	
Air transportation	115	91	--	--	--	--	24*	
Air transport ground support	5	100	--	--	--	--	--	
Aviation and flight technologies	111	90	--	--	--	--	22*	
Marine transportation	15	--	--	--	--	--	--	
Nautical science/navigation technologies	15	--	--	--	--	--	--	
Other transportation technologies	10	100	--	--	--	--	--	
Health sciences and related	1,786	86	--	--	13*	13*	34	
Diagnostics and treatment medical technologies	690	84	--	--	--	--	35	
Chiropractic technologies	17	100	--	--	--	--	--	
Dental hygiene/assistant technologies	53	96	--	--	--	--	--	
Emergency para-medical technologies	143	76*	--	--	--	--	--	
Medical laboratory technologies	176	78	--	--	--	--	--	
X-ray/radiology/nuclear medicine technology	155	86	--	--	--	--	--	
Other diagnostic and treatment medical technologies	1,477	89	--	--	--	--	--	
Medical equipment and prosthetics	92	100	--	--	--	--	--	
Dental appliances	56	100	--	--	--	--	--	
Optical prosthetics/lenses	19	100	--	--	--	--	--	
Orthopaedic prosthetics	17	100	--	--	--	--	--	
Nursing	836	85	--	--	--	--	33	
Diploma nursing	462	81	--	--	--	--	31*	

Table B-1E Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Men	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Nursing aide/orderly	83	100	--	--	--	--
Nursing refresher	9	--	100	--	--	--
Psychiatric or mental health nursing	66	87	--	--	--	--
Public health nursing	35	100	--	--	--	--
Other health related technologies	175	89	--	--	--	--
Biological sciences/technologies	109	100	--	--	--	--
Dietetics/dietary technologies	19	--	100	--	--	--
Public/environmental health	9	100	--	--	--	--
Other health-care technologies	38	100	--	--	--	--
Humanities and related	184	60*	--	--	--	--
Journalism	96	69*	--	--	--	--
Languages	10	--	100	--	--	--
English literature, grammar, composition	10	--	100	--	--	--
Library science	65	--	100	--	--	--
Archival sciences	10	--	100	--	--	--
Library/documentation sciences	55	--	100	--	--	--
Natural sciences and primary industries	1,705	84	3*	11	12	26
Environmental and conservation technologies	567	85	--	11*	11*	27
Environmental control/protection technology	150	91	--	--	--	26
Land resources technologies	36	81	--	--	--	--
Water science technologies	138	82	--	--	--	--
Wildlife and forest conservation technologies	108	76	--	--	--	--
Other environmental and conservation technologies	134	90	--	--	--	18*
Natural sciences	441	89	--	--	--	30
Agriculture	3	100	--	--	--	21
Agriculture business	43	--	100	--	--	--
Agriculture technologies/sciences/engineering	153	85	--	--	--	--
Animal sciences	84	90	--	--	--	15*
Cattle technologies/beef and dairy)	6	100	--	--	--	--
Veterinary technologies/animal health	25	100	--	--	--	--
Other animal sciences	53	85	--	--	--	--
Biology	11	80	--	--	--	--
Plant sciences	147	90	--	--	--	25
Crops and horticulture	66	91	--	--	--	--
Irrigation/water management	4	100	--	--	--	--
Landscaping	77	89	--	--	--	25*
Primary industries (excluding agriculture)	560	78	--	--	--	29
Fishing technologies	4	100	--	--	--	--
Forestry technologies	341	83	--	--	--	14*
Mining technologies	179	73	--	--	--	26
Drilling and extractive technologies	21	--	100	--	--	36
Geology and prospecting	98	76	--	--	--	--
Petroleum resources/technology	37	59*	--	--	--	--
Resource processing technologies	137	88	--	--	--	30*
Food processing technologies	55	88	--	--	--	--
Dairy products processing	34	100	--	--	--	24*
Marine products processing	10	66*	--	--	--	--
Other food processing technologies	11	71*	--	--	--	--

Table B-1E Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (\$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Forest products processing	34	100	--	--	--	--	--
Pulp and paper technology	29	100	--	--	--	--	--
Wood products processing	5	100	--	--	--	--	--
Metal processing	37	73*	--	--	--	--	--
Processing of other metals	37	73*	--	--	--	--	--
Petroleum refining technologies	11	100	--	--	--	--	--
Social sciences and services	2,651	85	6*	7*	7	28	--
Educational and counselling services	307	76	--	--	--	--	--
Counselling services/technologies	51	--	--	--	--	--	--
Counsellor/education/career/vocational	14	--	--	--	--	--	--
Counsellor/handicapped	37	100	--	--	--	--	--
Educational services	256	76	--	--	--	--	--
Education-early childhood	79	89	--	--	--	--	--
Education-handicapped	12	100	--	--	--	--	--
Industrial arts education	27	100	--	--	--	--	--
Supervisory training for on-job instruction	12	100	--	--	--	--	--
Teacher training	113	65*	--	--	--	--	--
Teachers aide/educational support	12	--	--	--	--	--	--
Correctional/education services	1,584	90	--	--	--	--	30
Correctional technologies	143	96	--	--	--	--	--
Para-legal/technologies	24	100	--	--	--	--	--
Police technologies/criminology	963	88	--	--	--	--	--
Protection technologies	454	92	--	--	--	--	28*
Fire	12	100	--	--	--	--	--
Safety	12	100	--	--	--	--	--
Recreation and sport	429	91	--	--	--	--	28*
Physical education/instruction	442	88	--	--	--	--	24*
Recreation leadership/leisure services	54	84*	--	--	--	--	--
Travel and tourism	175	88	--	--	--	--	--
Parks/forests/wildlife recreation	189	87	--	--	--	--	--
Travel counselor/agent	97	87	--	--	--	--	--
Other recreation and sport	92	87	--	--	--	--	--
Social sciences	25	100	--	--	--	--	--
Psychology	14	--	--	--	--	--	--
Other Social sciences	2	--	--	--	--	--	--
Social services	12	--	--	--	--	--	--
Care of the disabled	305	67	--	--	--	--	24*
Child care services	33	--	--	--	--	--	--
Community planning/urban design	39	100	--	--	--	--	--
Gerontology	41	--	--	--	--	--	--
Social services/welfare technologies	25	--	--	--	--	--	--
Youth services	79	71*	--	--	--	--	--
Other social services	9	100	--	--	--	--	--
	40	77*	--	--	--	--	--

Table B-1F Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Total (all fields of study)	33,575	73	14	9	5	25
Arts	3,054	65	15	14	14	21
Commercial and promotional arts	371	80	--	--	--	22*
Advertising	245*	78	--	--	--	--
Commercial arts	--	75*	--	--	--	--
Other commercial and promotional arts	--	100	--	--	--	--
Creative and design arts	891	60	15*	16*	17*	21
Fashion arts	434	59	--	--	--	21*
Interior decorating	408	64	--	--	--	20*
Jewellery design	--	--	--	--	--	--
Fine arts	323	37*	33*	--	--	--
Performing arts/theatre arts	123*	--	--	--	--	--
Dance	--	100	--	--	--	--
Drama	--	--	--	--	--	--
Music	--	--	--	--	--	--
Handicrafts	--	--	--	--	--	--
Sculpture and painting	--	--	--	--	--	--
Other fine arts	--	--	--	--	--	--
Graphic and audio-visual arts	853	57	20*	15*	16*	20
Photography	--	--	--	--	--	--
Printing and publishing	--	100	--	--	--	--
Recorded music production	--	--	--	--	--	--
Other graphic and audio-visual arts	667	54	20*	18*	19*	20*
Mass communications	422	86	--	--	--	20
Cinematography/film production/animation	--	100	--	--	--	--
Radio and television broadcasting	--	93	--	--	--	--
Other mass communications studies	227	80	--	--	--	24*
Personal arts	--	92	--	--	--	--
Barbering/hairdressing	--	100	--	--	--	--
Other personal arts	--	92	--	--	--	--
Other applied arts	--	96	--	--	--	--
Repair and renovation	--	100	--	--	--	--
Musical instruments	--	100	--	--	--	--
Other applied arts n.s.c.	--	94	--	--	--	--
Fine and applied arts not reported	--	--	--	--	--	--
Arts and sciences	606	37	32*	21*	23*	21*
Business and commerce	10,151	78	8	9	5	10
Management and administration	5,871	77	9	10*	4*	11
Financial management	2,217	73	10*	13*	13*	22
Accounting	843	82	--	--	--	20
Assessment/appraisal	--	100	--	--	--	23
Banking	--	--	--	--	--	--
Investment management	--	--	--	--	--	--
Other financial management	1,295	67	13*	14*	15*	18
Industrial management	2,079	77	10	9*	4*	9*
Health-care facilities management	--	67*	--	--	--	22
Hospital/health/resort management	--	78	--	--	--	--

Table B-1F Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Other institutional management	--	--	--	--	--	--
Management and administration-business and commerce	3,043	79	8*	9*	9*	23
Merchandising and sales	1,038	75	10*	7	10*	23
Secretarial science	2,674	79	9	5*	9	22
Business machine operations	--	--	--	--	--	--
Word processing	--	--	94	--	--	--
Other business machine operations	--	--	--	--	--	--
Secretary-general	1,773	81	--	7*	8*	21
Secretary/legal	462	82	--	--	--	24
Court reporting	--	100	--	--	--	--
Legal secretary/law clerk	429	81	--	--	--	24
Secretary-medical	348	73	--	--	--	25
Health records technology	190*	74	--	--	--	28*
Medical secretary	--	72	--	--	--	24*
Other secretarial/clerical	--	--	--	--	--	--
Service industry technologies	313*	74	--	--	--	24
Food preparation	--	54*	--	--	--	--
Cooking	--	--	--	--	--	--
Food preparation-other	--	--	--	--	--	--
Engineering and applied sciences	2,260	76	--	8*	9	26
Chemical technologies	291*	72	--	--	--	25
Biomedical technologies	--	64*	--	--	--	--
Chemical engineering technologies	--	65	--	--	--	24*
Chemistry	--	82	--	--	--	--
Industrial chemical technologies	--	--	--	100	--	--
Plastics and fiberglass	--	--	--	--	--	--
Textiles	--	100	--	--	--	--
Electrical/electronic engineering technologies	278*	78	--	--	--	30*
Avionics technologies	--	100	--	--	--	--
Electrical/electronic engineering technologies	251*	78	--	--	--	30*
Electrical	--	72	--	--	--	--
Electronics	--	89	--	--	--	--
Telecommunications technologies	--	--	--	--	--	--
Radio and television	--	100	--	--	--	--
Other telecommunications electronics	--	--	--	--	--	--
Engineering technologies	692	71	9*	14*	14*	24
Engineering-general	265*	76	--	--	--	27
Civil technologies	--	89	--	--	--	--
Drafting	--	80	--	--	--	--
Cartography	--	--	--	--	--	--
Engineering design or drafting	--	--	--	--	--	--
Instrumentation	--	--	--	--	--	--
Other engineering technologies	--	--	--	--	--	18
Aircraft mechanics	--	--	--	--	--	--
Auto technology	--	--	--	--	--	--

Table B-1F Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Auto mechanics	--	100	--	--	--	--
Hydraulics	--	100	--	--	--	--
Other mechanical engineering technologies	--	68*	--	--	--	--
Engineering/architectural and construction	281*	71	--	--	--	22
Architectural design/drafting technology	237*	71	--	--	--	22*
Construction or building technologies	--	--	--	--	--	--
Woodworking and carpentry	--	--	--	--	--	--
Other construction or building technologies	--	--	--	--	--	--
Naval architecture/construction technologies	--	100	--	--	--	--
Engineering-industrial	--	53*	--	--	--	--
Industrial design/operations technologies	--	--	--	--	--	--
Manufacturing technologies	--	--	--	--	--	--
Aircraft	--	--	--	--	--	--
Clothing/other fabric products	--	--	--	--	--	--
Other manufacturing	--	--	--	--	--	--
Materials sciences or management	--	100	--	--	--	--
Other industrial engineering technologies	964	80	--	--	--	26
Mathematics and computer science	964	80	--	--	--	26
Computer science	388	87	--	--	--	28
Computer programming	368	76	--	--	--	25
Computer sciences-system design and analysis	--	61*	--	--	--	29
Computer technologies	--	88	--	--	--	29
Data processing	--	--	--	--	--	--
Transportation technologies	--	--	--	--	--	--
Air transportation	--	--	--	--	--	--
Aviation and flight technologies	--	--	--	--	--	--
Marine transportation	--	--	--	--	--	--
Nautical science/navigation technologies	--	--	--	--	--	--
Other transportation technologies	--	--	--	--	--	--
Health sciences and related	9,046	73	--	--	--	--
Diagnostics and treatment medical technologies	2,285	77	--	--	--	31
Dental hygiene/assistant medical technologies	820	81	--	--	--	31*
Emergency para-medical technologies	--	--	--	--	--	30
Medical laboratory technologies	672	63	--	--	--	25
Pharmacy technologies	--	100	--	--	--	32*
Physiotherapy	200*	81	--	--	--	--
X-ray/radiology/nuclear medicine technology	293*	79	--	--	--	--
Other diagnostic and treatment medical technologies	100	100	--	--	--	--
Medical equipment and prosthetics	141*	73*	--	--	--	--
Auditory prosthetics	--	100	--	--	--	--
Dental appliances	--	--	--	--	--	--
Optical prosthetics/lenses	--	100	--	--	--	--
Orthopaedic prosthetics	--	--	--	--	--	--
Nursing	5,952	73	--	--	--	32
Diploma nursing	3,103	72	--	--	--	30
Nursing aide/orderly	24	54*	--	--	--	--
Nursing refresher	--	--	--	--	--	--

Table B-1F Characteristics of 1990 career/technical graduates by field of study, June 1992

	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Psychiatric or mental health nursing	214*	74	--	--	--	--	35*
Public health nursing	--	69*	--	--	--	--	--
Other specialized nursing	148*	70*	--	--	--	--	27*
Other health related technologies	658	52	--	--	--	--	--
Biological sciences/technologies	--	--	--	--	--	--	--
Dietetics/dietary technologies	256*	52*	--	--	--	--	--
Health-care support technologies	--	--	--	--	--	--	--
Public/environmental health	--	100	--	--	--	--	--
Other health-care technologies	299*	52*	--	--	--	--	--
Humanities and related	701	64	--	--	--	--	24
History	--	--	100	--	--	--	--
Journalism	194*	78	--	--	--	--	--
Languages	--	100	--	--	--	--	--
English literature, grammar, composition	--	100	--	--	--	--	--
Library science	362	69	--	--	--	--	27*
Archival sciences	--	100	--	--	--	--	--
Library/documentation sciences	352	68	--	--	--	--	28*
Religion/theology	--	--	--	--	--	--	--
Natural sciences and primary industries	711	76	8*	14	14	21	--
Environmental and conservation technologies	--	76	--	--	--	--	29*
Environmental control/protection technology	--	76	--	--	--	--	--
Water science technologies	--	86	--	--	--	--	--
Wildlife and forest conservation technologies	--	--	75*	--	--	--	--
Other environmental and conservation technologies	449	74	--	10*	14*	14*	20
Natural sciences	--	100	--	--	--	--	--
Agriculture business	--	84	--	--	--	--	--
Agriculture technologies/sciences/engineering	--	84	--	--	--	--	--
Animal sciences	386	73	--	--	14*	14*	20
Cattle technologies/beef and dairy)	--	--	100	--	--	--	--
Equine studies/horse husbandry	--	68	--	--	--	--	--
Veterinary technologies/animal health	223*	77	--	--	--	--	19
Other animal sciences	--	64*	--	--	--	--	--
Biology	--	--	--	--	--	--	--
Plant sciences	--	75	--	--	--	--	--
Crops and horticulture	--	74	--	--	--	--	--
Landscaping	--	84	--	--	--	--	--
Other plant sciences	--	--	--	--	--	--	--
Primary industries (excluding agriculture)	--	--	--	--	--	--	23*
Forestry technologies	--	--	--	--	--	--	--
Mining technologies	--	--	--	--	--	--	--
Geology and prospecting	--	--	--	--	--	--	--
Petroleum resources technology	--	--	100	--	--	--	--
Resource processing technologies	--	81	--	--	--	--	--
Food processing technologies	--	79	--	--	--	--	--
Dairy products processing	--	100	--	--	--	--	--
Marine products processing	--	--	--	--	--	--	--
Other food processing technologies	--	--	--	--	--	--	--

Table B-1F Characteristics of 1990 career/technical graduates by field of study, June 1992

Career/technical graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$ 000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Metal processing	--	100	--	--	--	--
Processing of other metals	--	100	--	--	--	--
Social sciences and services	6,928	71	12	10	7	24
Counseling and counselling services	2,494	71	14	8*	9*	23
Counseling services/technologies	177*	56*	--	--	--	--
Counselor-addiction	--	--	--	--	--	--
Counselor-education/career/vocational	--	--	--	--	--	--
Counselor-handicapped	--	--	--	--	--	--
Educational services	2,317	72	14	7*	7*	23
Adult education	--	--	100	--	--	--
Education-early childhood	1,535	73	--	--	10*	22
Education-handicapped	--	--	--	--	--	--
Teacher training	635	70	24*	--	--	25
Teachers aide/educational support	--	71*	--	--	--	--
Personal development	--	--	100	--	--	--
Communications skills development	--	--	100	--	--	--
Protection and correction services	1,018	84	--	--	--	28
Correctional technologies	284*	89	--	--	--	30*
Para-legal technologies	--	100	--	--	--	--
Police technologies/criminology	516	75	--	--	--	28
Protection technologies	147*	100	--	--	--	--
Fire	--	--	--	--	--	--
Security	1,161	75	--	--	--	--
Recreation and sport	--	--	--	--	--	--
Physical education/instruction	--	--	--	--	--	--
Recreation leadership/leisure services	348	65	--	--	--	--
Travel and tourism	749	80	--	--	--	--
Parks/recreation/wildlife recreation	--	--	--	--	--	--
Travel counselor/agent	728	81	--	--	--	--
Economics	--	--	--	--	--	--
Psychology	--	--	--	--	--	--
Other social sciences	2,176	66	12*	13	9*	14
Social services	--	--	--	--	--	25
Care of the disabled	190*	51*	--	--	--	--
Child care services	761	69	--	15*	16*	22
Community planning/urban design	--	63	--	--	--	--
Gerontology	304*	60	--	--	--	--
Social services/welfare technologies	573	69	--	--	--	26
Youth services	--	--	--	--	--	--
Other social services	192*	64	--	--	--	--
Other	--	--	--	--	--	--
Other n.e.c.	--	--	--	--	--	--

Table B-1G Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Both Sexes	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time		% working part time	% unemployed	% not in the labour force	
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Total (all fields of study)	126,180	73	10	10	7	11	33
Agriculture and biological sciences	7,938	64	8	12	16	14	28
Agriculture	959	83	--	8*	8*	9*	28
Animal science	--	79	--	--	--	--	26*
Plant science	289*	84	--	--	--	--	27
Soil science	--	82	--	--	--	--	--
Other agriculture	463*	84	--	--	--	--	28
Biochemistry	957	54	--	12*	28	17*	27
Biology	4,092	59	9	14	18	17	26
Genetics	--	55*	--	--	--	--	--
Microbiology	481*	53	--	--	18*	--	26
Other biology	3,467	60	8	15	17	18	26
Botany	--	--	--	--	--	--	29*
Fisheries and wildlife management	--	86	--	--	--	--	--
Food and household science	965	72	9*	10*	9*	10*	30
Food science and nutrition	468*	69	--	--	--	--	32*
Other household science and related	497*	75	--	--	--	--	30
Toxicology	--	100	--	--	--	--	--
Veterinary medicine and science	316*	85	--	--	--	--	42
Veterinary medicine	284*	86	--	--	--	--	42
Veterinary medicine specialties	--	69	--	31*	--	--	--
Veterinary sciences	--	77	--	--	--	--	53
Zoology	485*	62	--	--	15*	--	25
Commerce, management and administration	18,034	85	4	8	3	8	31
Commerce, management and business administration	17,172	85	4	8	3	8	31
Specialized administration	862	84	--	--	--	--	37
Health administration	277*	84	--	--	--	--	48
Hotel and food administration	--	81*	--	--	--	--	--
Public administration	324*	85	--	--	--	--	40*
Other specialized administration studies	--	82	--	--	--	--	--
Education	21,220	77	13	6	3	8	34
Elementary/secondary teacher training	12,789	80	11	6	3*	6	35
Non-teaching field	1,762	85	6	5*	5*	5*	53
Curriculum specialization	322*	89	--	--	--	--	55
Education administration	722	91	--	--	--	--	57
Education foundations	--	82	--	--	--	--	49
Education psychology	--	74	12*	--	--	--	49
Guidance and counselling	--	73	--	--	--	--	49
Measurements and evaluation	--	--	--	--	--	--	--
School librarianship	--	--	78*	--	--	--	--
Other non-teaching fields	--	71	--	--	--	--	50*
Physical education, kinesiology, recreation, etc	3,233	72	13*	10*	10*	11*	30
Kinesiology, human kinetics and kinanthropology	346*	77	--	--	--	--	--
Physical education	1,941	65	17*	14*	14*	15*	30
Recreation	945	87	--	--	--	--	28
Other teaching	3,437	63	20	14	15	15	31

Table B-1G Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Both Sexes	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$ 000)
		% working full time		% working part time	% unemployed	
		% not in the labour force	unemployment rate (%)			
Higher education teacher training	3,270	62	21	15	--	15
Kindergarten teacher training	--	88	--	--	--	--
Engineering and applied science	8,963	81	2*	10	8	11
Architecture	386*	77	2*	18*	--	37
Engineering	8,020	81	2*	9	8	30
Chemical engineering	743	85	--	--	--	38
Civil engineering	1,231	84	--	9*	--	39
Electrical engineering	2,130	84	--	7*	9*	36
Mechanical engineering	1,862	82	--	10*	7*	39
Other engineering	2,055	74	--	12	12	36
Aeronautical and aerospace engineering	--	64*	--	--	--	--
Design and systems engineering	--	67	--	--	--	--
Engineering general	--	60	--	--	--	--
Engineering science	346*	57	--	--	--	34*
Industrial engineering	--	72	--	--	--	40*
Metalurgical engineering	--	76	--	--	--	38*
Mining engineering	250*	83	--	--	--	37*
Other engineering	731	79	--	12*	--	13*
Forestry	--	90	--	--	--	36
Landscape architecture	340*	72	--	--	--	35*
Fine and applied arts	3,911	54	22	14	11*	28*
Applied arts	962	57	--	--	--	28*
Industrial design	--	73*	--	--	--	--
Other applied arts	831	56	--	--	--	26*
Fine art	1,203	47	20*	--	--	23*
Music	1,192	47	33	13*	--	20*
Other performing arts	551	75	--	--	--	14*
General arts and science	3,845	67	11	13	9	14
General arts and science	298*	68	--	--	--	--
General arts	2,179	64	13	15	8*	--
General science	1,149	69	13*	13*	17*	30
Interdisciplinary studies	--	65	--	--	--	33
Health professions	8,715	83	8	5	5	43*
Dental studies and research	463*	83	--	--	--	38
Dentistry	--	86	--	--	--	77
Dental specialties	--	71*	--	--	--	78
Medical studies and research	2,479	80	4*	7*	9	34
Medicine	1,776	87	--	8*	8*	35
Basic medical sciences	381*	62	--	--	29	28
Anatomy	--	55*	--	--	--	--
Biochemistry	--	51	--	--	49	37
Biophysics	--	59	--	--	--	--
Embryology	--	100	--	--	--	--
Genetics	--	--	--	--	--	--
Pharmacology	--	73	--	--	--	--
Physiology	--	54*	--	--	--	--
Other basic sciences	--	100	--	--	--	--

Table B-1H Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Total (all fields of study)	57,003	76	7	10	7	11	34
Agriculture and biological sciences	3,507	65	5*	11	19	14	28
Agriculture	624	61	--	--	--	--	28
Animal science	--	78	--	--	--	--	--
Plant science	--	80	--	--	--	--	27*
Soil science	--	62*	--	--	--	--	43*
Other agriculture	312*	84	--	--	--	--	28
Biochemistry	449*	57	--	--	33	--	28*
Biology	1,858	59	7*	14	21	18	26
Genetics	--	60*	--	--	--	--	--
Microbiology	256*	51	--	--	--	--	25*
Other biology	1,523	60	--	15	19	18	26
Biophysics	--	59*	--	--	--	--	--
Botany	--	58*	--	--	--	--	--
Fisheries and wildlife management	--	100	--	--	--	--	--
Food and household science	--	74	--	--	--	--	--
Food science and nutrition	--	68*	--	--	--	--	--
Other household science and related	--	34	--	--	--	--	--
Veterinary medicine and science	--	94	--	--	--	--	50*
Veterinary medicine	--	97	--	--	--	--	50*
Veterinary medicine specialties	--	55*	--	--	--	--	--
Veterinary sciences	--	62	--	--	--	--	56
Zoology	252*	61	--	--	--	--	29*
Commerce, management and administration	9,586	87	3*	8	8	8	33
Commerce, management and business administration	9,295	87	3*	8	8	8	33
Specialized administration	292*	84	--	--	--	--	45*
Health administration	--	86	--	--	--	--	52*
Hotel and food administration	--	100	--	--	--	--	--
Public administration	--	72*	--	--	--	--	52*
Other specialized administration studies	--	92	--	--	--	--	--
Education	6,582	81	11	6*	6*	6*	35
Elementary/secondary teacher training	3,601	85	11*	--	--	--	36
Non-teaching field	692	92	--	1	--	--	58
Curriculum specialization	--	93	--	--	--	--	60
Education administration	408*	95	--	--	--	--	60
Education foundations	--	92	--	--	--	--	50*
Education psychology	--	66	--	--	--	--	50
Guidance and counselling	--	67	--	--	--	--	--
Measurements and evaluation	--	100	--	--	--	--	--
Other non-teaching fields	--	100	--	--	--	--	--
Physical education, kinesiology, recreation, etc	1,499	74	--	--	--	--	30
Kinesiology, human kinetics and kinanthropology	--	75*	--	--	--	--	--
Physical education	961	66	--	--	--	--	32
Recreation	355*	93	--	--	--	--	32*
Other teaching	790	69	--	--	--	--	32
Higher education teacher training	790	69	--	--	--	--	32
Engineering and applied science	7,659	81	2*	7	11	11	37

Table B-1H Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Men	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	
		unemployment rate (%)				
Architecture	286*	74	-	-	-	32*
Engineering	6,985	81	2*	10	7	38
Chemical engineering	541	83	-	-	-	39
Civil engineering	1,104	84	-	-	-	36
Electrical engineering	1,905	83	-	9*	8*	38
Mechanical engineering	1,674	82	-	10*	6*	36
Other engineering	1,767	75	-	13	14	37
Aeronautical and aerospace engineering	-	66*	-	-	-	-
Design and systems engineering	-	76	-	-	-	-
Engineering general	-	78	-	-	-	-
Engineering science	277*	56	-	-	-	41*
Industrial engineering	-	74	-	-	-	-
Metallurgical engineering	-	76	-	-	-	-
Mining engineering	-	86	-	-	-	-
Other engineering	646	78	-	13*	14*	36
Forestry	-	92	-	-	-	-
Landscape architecture	-	66	-	-	-	-
Fine and applied arts	1,379	52	20*	17*	19*	20
Applied arts	370*	53*	-	-	-	-
Industrial design	-	71*	-	-	-	-
Other applied arts	-	268*	48*	-	-	-
Fine art	387	48*	-	-	-	-
Music	485*	45*	32*	-	-	-
Other performing arts	-	89	7*	-	-	-
General arts and science	1,685	70	14	8*	15	34
General arts and science	-	89	-	-	-	-
General arts	835	66	10*	17*	18*	31
General science	669	70	12*	-	14*	35
Interdisciplinary studies	-	98	-	-	-	-
Health professions	2,558	82	4*	7	7	40*
Dental studies and research	276*	83	-	-	-	40*
Dentistry	-	88	-	-	-	-
Dental specialties	-	67*	-	-	-	-
Medical studies and research	-	67*	7*	-	-	-
Medicine	1,403	80	-	-	-	-
Basic medical sciences	1,016	88	-	-	-	-
Anatomy	-	60	-	-	-	-
Biochemistry	-	-	-	-	-	-
Biophysics	-	-	-	-	-	-
Embryology	-	-	-	-	-	-
Genetics	-	100	-	-	-	-
Pharmacology	-	-	-	-	-	-
Physiology	-	-	-	-	-	-
Other basic sciences	-	-	-	-	-	-
Medical specialties	100	59	-	-	-	-
Surgical specialties	-	100	-	-	-	-
Nursing	-	88	-	-	-	-

Table B-1H Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Men	Number of graduates	Labour force status June 1992					Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	unemployment rate (%)	
Pharmacy	314*	88	—	—	—	—	47
Rehabilitation medicine	—	100	—	—	—	—	40*
Aural and oral rehabilitation	—	100	—	—	—	—	—
Occupational therapy	—	100	—	—	—	—	—
Physical therapy	—	100	—	—	—	—	—
Other rehabilitation	—	100	—	—	—	—	—
Other health professions	281*	67	—	—	—	—	43*
Epidemiology and public health	—	64*	—	—	—	—	47
Medical technology	—	100	—	—	—	—	—
Optometry	—	88	—	—	—	—	—
Paradical sciences	—	—	—	—	—	—	—
Immunology	—	—	—	—	—	—	—
Microbiology	—	100	—	—	—	—	—
Pathology	—	63*	—	—	—	—	—
Other health professions	—	—	—	—	—	—	—
Humanities	5,580	65	13	14	16	25	—
Classics, classical and dead languages	—	70*	—	—	—	—	—
English language and/or literature	1,060	53	20*	—	—	23	—
French language and/or literature	389*	60	—	—	—	31*	—
Other languages and/or literatures	—	—	—	—	—	—	—
Asian languages and literatures	—	100	—	—	—	—	—
Comparative literature	—	100	—	—	—	—	—
Medieval languages	—	100	—	—	—	—	—
Slavic languages and literatures	—	—	—	—	—	—	—
Other languages and literatures	—	—	—	—	—	—	—
History	1,812	66	11*	15*	16*	25	38*
Library and records science	—	80	79	—	—	—	37
Library science	—	—	—	—	—	—	—
Other records science	—	—	—	—	—	—	—
Linguistics; translation, and interpretation	—	—	—	—	—	—	—
Linguistics	—	—	—	—	—	—	—
Translation and interpretation	—	—	—	—	—	—	—
Mass media studies	538	73	—	—	—	—	—
Journalism	—	97	—	—	—	—	—
Other mass communication	400*	65	—	—	—	—	—
Philosophy	544	61	—	—	—	—	—
Religious and theological studies	831	76	—	—	—	—	—
Religious studies	285*	61	—	—	—	—	—
Theological studies	—	—	—	—	—	—	—
Mathematics and physical sciences	5,457	74	5	8	13	29	36
Chemistry	708	73	—	—	—	—	—
Computer science	2,028	86	—	—	—	—	37
Geology and related	458	67	—	—	—	—	35
Mathematics	1,453	67	—	—	—	—	36
Physics	725	54	—	—	—	—	32
Astronomy	—	66	—	—	—	—	—
Other physics	704	54	—	—	—	—	31
					13*	—	19*

Table B-1H Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Men	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
		unemployment rate (%)				
Other physical sciences	86	--	--	--	--	--
Metallurgy, materials sciences	100	--	--	--	--	--
Meteorology	96	--	--	--	--	--
Climatology	100	--	--	--	--	--
Other meteorology	96	--	--	--	--	--
Oceanography and water studies	49*	--	--	--	--	38*
Social sciences (excluding business and commerce)	12,806	75	7	10	8	32
Anthropology	252*	58*	--	--	--	--
Archaeology	--	--	--	--	--	--
Canadian and area studies	--	--	--	--	--	--
Area studies	--	--	--	--	--	--
Asian studies	--	--	--	--	--	--
Medieval studies	--	--	--	--	--	--
Other area studies	--	--	--	--	--	--
Canadian studies	--	--	--	--	--	--
Economics	2,936	79	--	--	11*	12*
Geography	1,155	67	--	--	--	30
Law and jurisprudence	1,983	90	--	--	--	30
Man/environment studies	546	85	--	--	--	42
Regional, rural, urban, city planning and community development	246*	87	--	--	--	30
Resource management, environmental studies	289*	83	--	--	--	30*
Political science	2,229	71	--	12*	12*	32
Psychology	1,899	69	12*	--	--	30
Social work and social welfare	275*	83	--	--	--	38
Sociology and criminology	1,222	73	--	--	--	30
Criminology	230*	82	--	--	--	32
Sociology	982	71	--	--	--	32
Other social services	--	--	--	--	--	--

Table B-11 Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Women	Number of graduates	Labour force status June 1992						Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	% unemployed	unemployment rate (%)	
Total (all fields of study)								
Agriculture and biological sciences	69,136	70	12	10	8	11	32	
Agriculture	4,431	64	10	13	14	15	28	
Animal science	335*	86	--	--	--	--	28*	
Plant science	--	79	--	--	--	--	--	
Soil science	--	94	--	--	--	--	--	
Other agriculture	--	100	--	--	--	--	--	
Biochemistry	508*	83	--	--	--	--	28*	
Biology	2,235	53	--	--	--	--	26	
Genetics	--	59	11*	14	16	17	26	
Microbiology	--	56*	--	--	--	--	--	
Other biology	231*	56*	--	--	--	--	27*	
Biophysics	1,943	60	10*	14	16	17	26	
Botany	--	--	--	--	--	--	--	
Fisheries and wildlife management	--	--	--	--	--	--	--	
Food and household science	--	--	--	--	--	--	--	
Food science and nutrition	867	72	10*	11*	11*	30	32*	
Other household science and related	407*	70	--	--	--	--	30	
Toxicology	459*	74	--	--	--	--	--	
Veterinary medicine and science	--	--	--	--	--	--	--	
Veterinary medicine	--	100	--	--	--	--	--	
Veterinary medicine specialties	--	78	--	--	--	--	40*	
Veterinary sciences	--	78	--	--	--	--	40*	
Zoology	--	100	--	--	--	--	--	
Commerce, management and administration	--	--	--	--	--	--	--	
Commerce, management and business administration	8,416	63	5*	8	4*	24*		
Specialized administration	7,845	82	5*	9	4*	30		
Health administration	571	84	--	--	--	30		
Hotel and food administration	--	84	--	--	--	35		
Public administration	--	71	--	--	--	35		
Other specialized administration studies	--	94	--	--	--	45		
Education	14,633	78	--	--	--	--	--	
Elementary/secondary teacher training	9,186	75	13	8	4	34		
Non-teaching field	1,069	78	12	7	3*	35		
Curriculum specialization	--	80	8*	6*	6*	6*	45	
Education administration	313*	88	--	--	--	--	46	
Education foundations	--	86	--	--	--	--	47*	
Education psychology	--	76	6*	--	--	--		
Guidance and counselling	--	76	--	--	--	--		
Measurements and evaluation	--	74	--	--	--	--		
School librarianship	--	74	--	--	--	100		
Other non-teaching fields	--	78*	--	--	--	--		
Physical education, kinesiology, recreation, etc	--	61*	--	--	--	--	27	
Kinesiology, human kinetics and kinanthropology	1,731	71	--	--	--	--	--	
Physical education	978	80	--	--	--	--	27*	
Recreation	590	63	--	--	--	--	26	
Other teaching	2,646	83	--	--	--	--	15	
	62	--	--	--	--	--	21	

Table B-11 Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Higher education teacher training	2,480	60	22	15	15	30
Kindergarten teacher training	..	88	..	..	..	..
Engineering and applied science	1,304	80	..	7*	11*	36
Architecture	..	65	..	..	..	..
Engineering	1,026	82	..	..	12*	38
Chemical engineering	..	90	..	..	..	39*
Civl engineering	..	89	..	..	..	35*
Electrical engineering	..	94	..	..	..	39*
Mechanical engineering	..	78	..	..	..	36*
Other engineering	288*	67	..	..	..	37*
Aeronautical and aerospace engineering	..	..	..	..	..	..
Design and systems engineering	..	..	..	..	..	..
Engineering general	..	..	..	..	..	..
Engineering science	..	..	..	..	..	..
Industrial engineering	..	..	..	..	..	..
Metallurgical engineering	..	..	..	..	..	..
Mining engineering	..	..	..	..	..	..
Other engineering	..	..	..	..	..	..
Forestry	..	..	..	..	..	..
Landscape architecture	..	..	..	..	..	..
Fine and applied arts	2,532	54	23	12	11*	14
Applied arts	593	60	..	..	..	25
Industrial design	..	..	..	..	..	26*
Other applied arts	..	..	..	..	..	..
Fine art	..	..	..	..	..	..
Music	708	49	34*	..	..	..
Other performing arts	416*	71	..	..	..	..
General arts and science	2,156	64	13	12	10*	14
General arts and science	..	54*	..	..	..	32
General arts	1,340	62	15*	14*	9*	16*
General science	480*	67	..	..	..	30
Interdisciplinary studies	..	80	..	..	..	32
Health professions	..	..	..	..	..	..
Dental studies and research	..	..	..	..	..	..
Dentistry	..	..	..	..	..	..
Dental specialties	..	..	..	..	..	..
Medical studies and research	..	..	..	..	..	..
Medicine	1,076	86	..	..	..	35
Basic medical sciences	..	84	..	..	..	..
Anatomy	..	..	..	..	..	..
Biochemistry	..	..	..	..	..	..
Biophysics	..	..	..	..	..	..
Genetics	..	..	..	..	..	..
Pharmacology	..	..	..	..	..	..
Physiology	..	..	..	..	..	..
Other basic sciences	..	..	..	..	..	..
Medical specialties	..	..	..	..	..	..

32*

100

62

Table B-11 Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$000)
		% working full time	% working part time	% unemployed	% not in the labour force	
					unemployment rate (%)	
Surgical specialties	...	100	—	—	—	—
Nursing	2,698	82	13	—	—	38
Pharmacy	596	88	—	—	—	45
Rehabilitation medicine	1,130	89	—	—	—	36
Aural and oral rehabilitation	...	78	—	—	—	36
Occupational therapy	236*	91	—	—	—	36*
Physical therapy	499*	93	—	—	—	38
Other rehabilitation	...	89	—	—	—	30*
Other health professions	...	80	—	—	—	40
Epidemiology and public health	...	80	7%	—	—	38
Medical technology	...	100	—	—	—	—
Optometry	...	89	—	—	—	—
Paraclinical sciences	...	75	—	—	—	—
Immunology	...	—	—	—	—	—
Microbiology	...	82	—	—	—	—
Pathology	...	82	—	—	—	—
Other health professions	...	74	—	—	—	40*
Humanities	9,508	61	16	11	12	28
Classics, classical and dead languages	...	—	—	—	—	—
English language and/or literature	3,131	61	16	12*	11*	—
French language and/or literature	1,446	56	19*	—	13*	25
Other languages and/or literatures	345*	69	—	—	14*	30
Asian languages and literatures	...	100	—	—	—	—
Comparative literature	—	—	—	—	—	—
Mediaeval languages	—	—	—	—	—	—
Slavic languages	—	—	—	—	—	—
Other languages and literatures	—	—	—	—	—	—
History	270*	70	—	—	—	—
Library and records science	1,604	65	16*	15*	11*	26
Library science	351*	75	11*	—	12*	36
Other records science	317*	73	12*	—	—	—
Linguistics, translation, and interpretation	—	93	—	—	—	—
Linguistics	626	53	—	—	—	—
Translation and interpretation	311*	28*	—	—	—	26*
Mass media studies	315*	77	—	—	—	26*
Journalism	833	68	—	—	—	32*
Other mass communication	244*	65*	—	—	—	—
Philosophy	589	68	—	—	—	—
Religious and theological studies	330*	49*	—	—	—	32*
Religious studies	693	57	—	—	—	—
Theological studies	344*	55*	—	—	—	27*
Mathematics and physical sciences	349*	58	—	—	—	26*
Chemistry	2,161	73	5*	—	10	14
Computer science	495*	65	14*	—	—	29
Geology and related	—	84	—	—	—	35
Mathematics	61	—	—	—	—	34*
Physics	861	75	—	—	—	32

Table B-11 Characteristics of 1990 university graduates by field of study, June 1992

University graduates - Women	Number of graduates	Labour force status June 1992				Median annual earnings of full-time workers June 1992 (1992 \$'000)
		% working full time	% working part time	% unemployed	% not in the labour force	
Astronomy	--	100	--	--	--	--
Other physical sciences	--	60	--	--	--	--
Metallurgy, materials sciences	--	55*	--	--	--	--
Oceanography and water studies	--	100	--	--	--	--
Social sciences (excluding business and commerce)	17,638	--	--	--	--	--
Anthropology	430*	65	14	12	9	30
Archaeology	--	40*	--	--	--	--
Canadian and area studies	396*	74	--	--	--	35*
Area studies	--	68	--	--	--	--
Asian studies	--	--	--	--	--	--
Medieval studies	--	--	--	--	--	--
Slavic studies	--	--	--	--	--	--
Other area studies	--	--	--	--	--	--
Canadian studies	--	69	--	--	--	--
Demography	--	80	--	--	--	--
Economics	1,082	--	--	--	--	100
Geography	546	67	--	--	--	--
Law and jurisprudence	1,820	52*	--	--	--	30*
Man/environment studies	470*	64	--	--	--	--
Regional, rural, urban, city planning and community development	--	21*	--	--	--	--
Resource management, environmental studies	--	69	--	--	--	23*
Political science	--	86	--	--	--	34*
Secretarial studies	272*	56*	--	--	--	--
Societal studies	1,494	68	--	--	--	--
Social work and social welfare	5,867	61	18	10	12	19*
Criminology	--	83	--	--	--	28
Sociology	1,413	76	--	--	--	11
Other social services	3,796	71	--	--	--	28
Sociology	300*	71	--	--	--	36
Other social services	3,496	71	16*	16*	g*	30
	247*	--	--	--	g*	30

Table B-2. Characteristics of 1990 graduates in June 1992

	Trade/ Vocational	Career/ Technical	Total Universities	Bachelor's	Master's	Doctorate
1. Number of graduates	44,321	57,101	126,180	108,055	16,066	2,059
2. Characteristics of 1990 graduates						
2.1 Gender distribution (%)						
Men	47	41	45	44	52	64
Women	52	59	55	56	48	36
2.2 Age in 1990						
Age distribution (%)						
Less than age 18	—	—	—	—	—	—
Age 18-21	29	42	9	11	—	—
Age 22-24	14	26	45	51	11	1
Age 25-29	17	14	23	20	38	24
Age 30-34	14	7	9	7	19	35
Age 35-39	11	5	6	5	14	20
Age 40 and over	14	5	8	6	18	20
Median Age	27	22	24	23	30	33
2.3 Marital status distribution in 1992 (%)						
Single	44	61	56	60	34	25
Married	47	35	40	36	58	68
Widowed, separated or divorced	9	4	4	3	7	7
2.4 Percent of graduates with dependent children in 1992						
Total	38	19	19	16	37	47
Men	31	14	18	13	37	51
Women	44	22	20	18	36	40
2.5 Percent of graduates with dependent children under age 5 in 1992						
Total	14	9	9	8	18	26
Men	16	9	11	9	21	30
Women	13	9	8	7	15	18
2.6 Employment equity groups in 1992 (%)						
Aboriginal people	4	2	1	1	1	0*
Disabled persons	7	4	3	3	2	2
Visible minorities	14	10	11	10	12	18
2.7 Highest level of education completed by father (% distribution)						
No formal schooling	3	1	1	1	1	2
Elementary school	20	19	16	16	17	15
Some secondary school	19	20	14	15	13	13
Completed secondary school	18	23	21	21	22	21
Trade or vocational training	5	5	4	4	3	3
Some college	2	2	2	2	2	2
Completed college	4	6	5	5	4	4
Some university	1	1	2	2	2	1
Teacher's college	0*	1	1	1	1	1
Completed university degree	8	12	30	30	32	35
Undergraduate certificate or diploma	1	1	2	2	2	1
Bachelor's	4	7	15	15	15	16
Graduate certificate or diploma	0*	1	1	1	1	1
Master's degree	1	2	6	6	6	6
Degree in medicine,etc.	1	1	4	4	4	5
Earned doctorate	1*	1	3	3	4	7
Dont know	20	10	4	4	3	2
Other	—	1*	0	0	0*	1

Table B-2. Characteristics of 1990 graduates in June 1992

	Trade/ Vocational	Career/ Technical	Total Universities	Bachelor's	Master's	Doctorate
3. Labour market outcomes						
3.1 Labour force status, June 1992						
%working full-time	64	76	73	73	75	87
%working part-time	11	11	10	10	9	4
Working	75	87	83	82	83	91
%unemployed	18	9	10	10	7	6
%not in the labour force	7	4	—	7	10	3
Unemployment rate	20	10	11	11	8	6
3.2 Relationship of job to education, for full-time paid workers in 1992						
% working in directly related job	50	64	62	60	73	87
% working in partly related job	28	21	24	25	22	11
% working in unrelated job	22	15	14	16	5	2
3.3 June '92 education requirements of full-time workers June '92 job						
Incomplete, no postsecondary education	77	32	15	17	3	1
No postsecondary education	30	25	13	15	3	1
Some postsecondary education completed	2	2	1	2	1*	—
Trade/vocational diploma	45	5	1	1	—	—
College diploma or certificate	20	65	6	7	2	—
University degree, certificate or diploma	2	3	78	74	94	99
Undergraduate degree, certificate or diploma	—	1*	3	4	1	—
Bachelor's or 1st professional degree	2	1	62	66	48	9
Graduate degree, certificate or diploma	—	—	3	3	3	1*
Master's degree or graduate diploma	—	—	8	2	42	17
Doctorate	—	—	2	—	0*	71
Other	1*	1	1	1	1	1*
4. Pursuit of further studies and attitude towards 1990 program						
4.1 Further studies after 1990						
% who pursued further studies	28	35	47	49	35	14
% who received a certificate,diploma or degree after graduation	28	35	47	49	35	14
% pursued studies towards a trade/vocational certificate or diploma	11	3	1	1	1	0
% pursued studies towards a college certificate or diploma	10	14	6	6	3	1
% pursued studies towards a university certificate or diploma below bachelor's	4	16	36	37	27	9
% pursued studies towards a bachelor's degree	3	11	15	16	5	3
% pursued studies towards a university certificate or diploma above bachelor's	—	—	11	12	4	1
% pursued studies towards a first professional degree	—	—	3	1	15	2
% pursued studies towards a master's degree	4	2	1	1	1	0*
% pursued studies towards a doctoral degree	5	2	2	2	1	1
4.2 Retrospective choice of education program in 1992						
% would select same prog. again	65	61	65	64	74	70

